1937.

QUEENSLAND.

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ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE AND STOCK

FOR

THE YEAR 1936-1937.

PRESENTED TO PARLIAMENT BY COMMAND.

BRISBANE:
BY AUTHORITY: DAVID WHYTE, GOVERNMENT PRINTER

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REPORT OF THE DEPARTMENT OF AGRICULTURE AND STOCK FOR THE YEAR 1936-37.

TO THE HONOURABLE THE SECRETARY FOR AGRICULTURE AND STOCK.

SIR,—I have the honour to present herewith my report for the year ended 30th June, 1937.

SEASONAL CONDITIONS.

Extraordinary variability and contrasts in weather conditions marked an exceptional year. In the farming and dairying districts in the south-eastern portion of the State, from the coast westwards to the 150th meridian, the season was one of the driest on record. The rainfall for every month, with the exception of March, was generally much under the average. Summer rains were patchy and infrequent, and nothing like a normal wet season was experienced in most of the closely settled agricultural districts.

Heavy rains in March of last year gave promise of a good winter, which, however, was largely unfulfilled. From April until June very dry weather prevailed. In July sufficient rain fell for the establishment of winter cereals, although it came too late to benefit winter fodder crops and grasses. A very dry spring ensued. The summer rains, as stated, were very disappointing. No widespread relief came until March of this year, when a general downpour benefited the whole of the State. Unfortunately, the experience of the previous year has been repeated since, and the April-June quarter has been practically rainless.

In North Queensland, seasonal conditions were generally much more favourable, with an abundance of grass and water in the grazing areas. Heavy rains were continuous from mid-summer until March, but there, as in the South, the last quarter of the year has been abnormally dry.

On the Atherton Tableland and in the contiguous territory, the season was an excellent one for summer crops.

The inland pastoral districts had a fair season generally. In the North-west and Central-west, grazing conditions were very satisfactory, notwithstanding the fact that the monsoonal rains were much lighter and more local in effect than usual. After a long period of parching torridity, timely storms brought relief to the pastoral country within the lower rainfall region, where, in consequence, increases in flocks and weight of fleeces were among the cheerful experiences of the year.

THE PASTORAL INDUSTRY.

The statistical position of the pastoral industry is revealed by the following figures which have been compiled by the Government Statistician from stock returns:—

Horses.—The 1936 total was 441,536 compared with 441,913 a year earlier, a decrease of 377. While there has been a steady decline in the number of horses since 1921, the decrease last year (0.09 per cent.) is the smallest for the past fifteen years. The decline continued in the South-east (Moreton, Wide Bay, Downs, and Port Curtis) and in the North-west, but all other divisions of the State showed small increases.

Cattle.—The 1936 total, 5,950,572, shows a decrease of 82,432, or 1.37 per cent., compared with the total of 6,033,004 for 1936. The decline was due to the drought in the dairying districts of the State during 1936—the Moreton, Wide Bay, and Downs divisions showing decreases of 10, 6, and 13 per cent. respectively. Slight decreases occurred in the Port Curtis, Central Western, and Maranoa divisions, but increases were registered in all the other divisions, the greatest being in the Edgecumbe and North-western districts. The total in Edgecumbe increased by 9 per cent. and the North-western total showed an increase of 6 per cent.

Sheep.—Sheep flocks have made a satisfactory increase of 1,951,656, or 10.81 per cent., the total for 1936 being 20,011,749 compared with 18,060,093 the previous year. The number, however, is still below the 1935 total of 21,574,182.

The Central-western division of the State showed an increase of 858,709, or 18 per cent.; North-western, 473,070, or 21 per cent.; Far Western, 420,726, or 29 per cent.; and South-western, 251,280, or 7 per cent. In the Central-western areas the petty sessions districts of Longreach, Tambo, Muttaburra, and Blackall registered substantial increases, the Longreach district alone showing an increase of 410,875, or 49 per cent. The petty sessions districts of Cloncurry and Richmond in the North-west and Isisford and Winton in the Far Western area showed increases of 15, 39, 29, and 32 per cent. respectively.

The other sheep districts (Downs and Maranoa) and most of the coastal divisions experienced a small decline—the result of the prolonged drought in the South-east of the State, which had made its effects felt in 1936. Some petty sessions districts in the Downs and Maranoa registered increases.

Meat Exports.—Of the total meat exports from the Commonwealth to the United Kingdom for the year 1936-37—208,831 tons—Queensland contributed 95,195 tons or 45.58 per cent. The details are:—

The development of the chilled beef export trade is of immense importance to Queensland, which has such a vast extent of cattle country. Further success with chilled beef shipments was achieved during the year. The Queensland Meat Industry Board reports, however, that the "bloom" or natural brightness of the beef exported was lost in transit to a large extent, particularly on protracted voyages.

The factors influencing the rate of loss of bloom appear to include the initial quality of the animal, the treatment to which it is subjected shortly before slaughter, the rates of loss of weight of the beef during each stage of treatment from slaughter to marketing and the method of carriage, including stowage on shipboard.

These factors are now being studied in detail by the Council for Scientific and Industrial Research.

The factor of ample resting at the works prior to slaughter merits the closest attention. A series of tests carried out by the Board indicates that this practice is of value in the elimination of "fieryness"—a condition which seriously depreciates the value of Australian chilled beef on British markets.

The Department has assisted graziers and exporters in every way possible to increase interest in this promising industry.

To test a project for fattening cattle on the wet coastal country in the Far North, arrangements were made for depasturing a small herd of beef stock on a property near Tully. The results of the first trial were promising and a test on a larger scale is in progress. The scientific aspects of the project are being carefully investigated.

Exports of lamb and mutton from Queensland are yet of small account, being .54 and 12.60 per cent. respectively of the exports from Australia for the year 1936-37.

Sheep and Wool.—During the last twelve months, seasonal conditions over practically the whole of the sheep areas of the State have been fair. Throughout the central and north-western portions of the State, regular falls of rain occurred in summer and autumn, with the result that seldom in the history of these areas has winter come with the pastures in such good order. Although the pastures were largely bare in other sheep-raising districts, the condition and health of the sheep were remarkably good.

Sheep of all classes were in strong demand throughout the year, especially for restocking. Improved wool values resulted in a smaller number of wethers being marketed as mutton. The production of fat lambs was restricted because of the scanty rainfall over the Darling Downs, the chief fat lamb raising region.

The fat lamb scheme inaugurated by the Department a few years ago is developing successfully. Lambs raised under the scheme averaged 20s. 6d. per head. The highest price, 28s. 2d., was received for a pen of Border Leicester cross lambs. Rams of the British breeds have been distributed widely, most of them on the Darling Downs.

In order that diseases and pests—blowfly, particularly—of sheep may be more fully investigated in a suitable environment, a large pastoral area in the Cunnamulla district has been made available. It is confidently expected that the results of the researches undertaken there will be of great benefit to the pastoral industry.

Ten series of wool sales were held in Brisbane during the season, at which 492,266 bales were sold. All these sales were remarkable for their clearances and very little wool has been left in store. The proceeds of the sales totalled approximately £10,700,000.

Good lambing percentages have been the rule in many districts. With the rise in wool values, the development of the chilled beef trade and the country well grassed, the pastoral prospects in Queensland are very bright.

The Veterinary Surgeons Act became operative in March. A Faculty of Veterinary Science within the University of Queensland has been established, for which funds were provided by the Government.

GENERAL AGRICULTURE.

Throughout the agricultural districts of Southern Queensland climatic conditions were extremely abnormal. In only one month—March—were average or over average rains recorded.

A week of wet weather early in July enabled farmers to complete sowings of winter cereals for both grain and fodder; but, as in the previous season, the welcome change came too late for the seasonal establishment of winter fodders and grasses. An exceptionally dry period followed. In September, useful rains revived wilting crops and parching pastures.

A commencement was made with normal summer sowings in November, but by then a severe drought had developed in the south-eastern portion of the State; although scanty and scattered rains had eased the situation in some localities.

Heavy, soaking rains in March benefited the whole State, with the exception of the far South-west. Unfortunately, the April-June quarter has been practically rainless over the whole of the farming country south of Capricorn, and the agricultural year has ended with anxiety.

The year under review has provided additional evidence of the necessity for conserving fodder during average seasons for both winter and spring feeding, and as a drought reserve. Very high prices have been obtained for hay, chaff, grain, and farm produce generally. The obvious moral is one of the most impressive lessons of a bad year.

The Department has continued its experimental plot work in connection with tobacco, wheat, maize, sorghum, peanuts, pasture plants, and general crops likely to prove of value, so far as seasonal conditions have permitted. The value and extent of this work can be appraised readily by a perusal of the staff summaries in other sections of this report.

CEREALS.

Lack of subsoil moisture precluded other than dry sowing until June, when normal sowings were continued until mid-July. The crops made excellent initial growth, stooling out well, only to receive a setback through the dry August winds. Fortunately, moderate September rains proved sufficient to carry the crops to maturity, although yields in most instances were considerably below average. Harvesting was finished by the end of November, ripening being accelerated by the prevailing dry conditions, the grain being sound milling wheat of excellent quality.

Through the scarcity of natural feed, a large area of wheat was utilized by dairy farmers as green fodder, thereby assisting to maintain production and avoid loss of stock. The area sown totalled 350,928 acres, while the recorded yield was 2,340,980 bushels.

The barley and canary seed crops were affected similarly by unfavourable climatic conditions. The approximate quantity of barley harvested was 9,755 bushels, while the yield of canary seed was very light.

SUMMER CROPS.

Early-sown maize failed as a grain crop in Southern Queensland, but was valuable as a fodder crop. Many of the later-sown crops were also affected by the prevalent dry weather, resulting in a considerably reduced average yield. The best returns were obtained from the late-sown fields which were soaked by the heavy March rains. On the Atherton Tableland an excellent season has assured a record yield, estimated at over 1,000,000 bushels.

Returns from summer fodder crops have, generally, been disappointing and it has been practically impossible to replenish fodder reserves for winter feeding. Sudan grass is outstanding as a drought-resisting summer fodder, having done particularly well in the Darling Downs and Maranoa districts.

The peanut industry has again proved its value to the South Burnett, for, despite adverse conditions, many growers have obtained fair returns. The present crop is estimated to attain 4,100 tons, as compared with 7,300 tons in the previous year.

POTATOES.

A normal planting of potatoes had been made by mid-August, but it proved a partial failure, particularly on the Darling Downs. Some excellent crops were bagged from small irrigated areas in the Lockyer, Fassifern, and Kingaroy districts, growers receiving high prices for their product because of a general scarcity. The March rains caused a reduction in the autumn crop, as farmers favour late January and February plantings. Nevertheless, some fair yields were harvested.

TOBACCO.

Although the 1936-37 season was not an extraordinarily good one for tobacco, the resultant crops, generally, are equal to anything yet produced. This is due partly to the fact that tobacco growing is practised largely by experienced men, and partly to a favourable season. Producers are showing a keener appreciation of the value of improved cultural practices, as well as of the benefits to be derived from growing green manurial and rotational crops. The yield from 3,545 acres planted is estimated at 2,112,766 lb. Up to the present approximately 1,600,000 lb. has been auctioned in Brisbane at the May and June sales. Values have remained firm, and leaf of outstanding quality has been among the lots marketed.

SUGAR.

The Queensland cane crop for the 1936 season constituted an all-time record. Approximately 5,171,500 tons of cane was milled, from which was manufactured 744,261 tons of 94 net titre sugar. These yields were 500,000 tons of cane and more than 105,000 tons of sugar, respectively, above the previous record crop of 1933. The phenomenal yield was the direct result of the particularly favourable growing season in the central and northern cane districts. Of the total sugar yield, 149,618 tons constituted "excess" sugar—that is, sugar produced by mills in excess of peak year allotments. This quantity was, therefore, disposed of at ruling export rates. The balance (594,643 tons) was marketed in the proportions—

56.461 per cent. for Australian requirements.
43.539 per cent. for sale abroad.

The proportion of the total crop exported—408,520 tons—was, therefore, substantially higher than that of the previous year. The average price for No. 1 pool sugar was £17 1s. 4d., as compared with £16 17s. in 1936. The average value of all sugar was £15 4s. 8d., the corresponding figure for 1936 being £16 3s. 8d. Export sugar averaged £7 19s. per ton, which is slightly in advance of the 1936 figure.

Drought in the dairying districts of Southern Queensland was doubtless responsible for an increased utilization of molasses as a stock feed, while that proportion used as manure showed an increase of nearly 700,000 gallons over 1935. Distilleries also accounted for 1,400,000 gallons in excess of the 1935 total.

Preliminary estimates for the 1937 crop have now been completed, and it is anticipated that 4,885,000 tons of cane will be milled. This is expected to yield approximately 708,000 tons of 94 net titre sugar, so that the harvest may fall short of the 1936 figure by 36,000 tons of sugar. Generally satisfactory growing conditions were experienced in the Central and Northern areas, but the Southern districts have not yet emerged from the droughty conditions which have prevailed for more than a year.

While the heavy tonnages recorded in recent years are due in part to the slightly increased acreage harvested, and to abnormally good growing conditions, there exists also a permanent upward trend in acreage yield, as the result of improved cultural methods, the growing of superior cane varieties, and the extension of irrigation practice. The great importance of these factors in reducing production costs is generally admitted. While it is fully recognised that the production of sugar for sale at current overseas prices is not economical under Australian conditions, it has not yet been possible to devise a formula whereby the acreage harvested may be reduced in proportion to the intensification of acreage yields.

The result of the 1937 International Sugar Congress has been received by Queensland canegrowers with satisfaction, affording as it does a measure of assurance of a market for that proportion of any crop likely to be produced, in the near future, in excess of Australian requirements. Whether the quota as laid down in the agreement will be the means of stimulating an upward trend in world prices is, naturally, the question to which an answer is desired, and market quotations are closely followed. The gains recorded during the past year have been offset almost entirely by the concomitant rise in shipping freights. The most pleasing feature of the discussions associated with the meetings is the assurance that the benefits of the British preferential duty will be extended for a further period.

It has been emphasised repeatedly that producers in this country have never aimed at the production of sugar for export. The present situation is one which has been brought about by a number of factors, which influenced production to such an extent that it rapidly overtook the consumption rate. The most important consideration, from the Queensland point of view, is that this State should have an assured market for the exportable surplus, and, further, that any scheme which so regulates production that the world's sugar price is brought to a level nearer to that of the production cost is definitely to be endorsed. The ruling price on the free market over the past few years has been such that virtually no country could produce sugar profitably for this purpose.

It is pleasing to record that in recent months the market quotation is substantially in advance of that obtaining a year ago, and the net value of the Australian export sugar woud have revealed a very important improvement were it not for the increase in overseas freight charges referred to, and which offset largely any benefits hitherto acquired.

The policy of steady expansion which was adopted by the Bureau of Sugar Experiment Stations some three years ago is now evident in the results which are occurring in both the agricultural and mill technology fields. The estimated expenditure for the current year is £26,000, which will be devoted to further research in soils and agriculture, pest and disease control, cane-breeding, and researches in milling practice.

An effort is being made to provide for the maintenance of a highly trained technical staff by encouraging university students to enter appropriate courses, and by offering an annual scholarship for a year of specialised sugar mill study and research. The policy of encouraging young mill officers to devote a slack season to the investigation of special problems in the laboratories of the Bureau has also been attended with success. The volume of valuable results which is thus provided has influenced the issue of an annual series of technical publications, which are circulated freely among mill technicians, both in Queensland and abroad. It is felt that the standard of work of the Bureau is now in keeping with the requirements of the industry, and bears comparison with similar organisations in the leading cane-producing countries of the world.

The Queensland Society of Sugar Cane Technologists, which was inaugurated and has since been fostered by the Bureau, is a strong organisation, having as its objective the wider dissemination of scientific knowledge in all phases of cane and sugar production. It now has a membership of over 300, and by means of annual conferences is able to promote the free interchange of information among officers of every mill, and also among canegrowers.

The Queensland Sugar Industry is obviously alive to its responsibilities, and is fully aware of the necessity for developing its efficiency to the highest degree, if the industry is to survive and prosper.

Cotton.

Adverse climatic conditions in the cotton-growing districts reduced seriously the cotton yield. Extremely dry weather prevailed until December in nearly every district and prevented the planting of the crop for a month to six weeks past the normal time. Periods of high temperatures, broken by severe storms, prevailed throughout most of the critical stages of plant growth during the following four months, after which practically no rain fell. The crop was thus not only late-planted but irregularly developed, especially on the older cultivations, the combination causing severe shedding of squares through most of the season, with a resultant lack of top crop except in favourable circumstances. Although there was only a slight reduction in acreage planted, the total yield will probably not exceed 8,500 bales of lint of 500 lb. net weight, as compared with 13,500 last year.

The saving features of the season have been the excellent yields obtained where cotton has been planted on land in the first or second season from the break-up of grassland, and the general high average grade of the cotton produced.

The investigations carried out in recent years at the Cotton Research Station have indicated that decidedly higher yields of cotton may be realised where cotton is grown in rotation with grassland. The yields obtained in all districts by the farmers who have tried this method during the last three seasons have given excellent evidence of the soundness of the findings of the investigations. It is confidently anticipated that most growers will eventually adopt this method of cotton-growing.

Excellent demonstrations were also obtained of the suitability of the newer varieties, yielding medium staple cotton of a harder character than has been produced to any extent in previous years. Not only were profitable yields obtained, but the quality of the lint was of a higher standard. Ample seed of the several varieties was produced to make it possible to replace practically all the older varieties of the 1⅛-inch cottons in the coming crop. As the Australian market for the shorter and medium stapled cottons has increased—about 23,000 bales of lint is now required to supply Australian spinning plants—the change-over of types of cotton grown will be highly advantageous. The cotton-growing industry has thus made definite progress in the past year, although the adverse seasonal conditions experienced reduced seriously the quantity of fibre produced.

THE FRUIT INDUSTRY.

Although weather conditions were anything but favourable from the financial aspect, the year, otherwise was a good one for orchardists. The Stanthorpe deciduous fruit area had the best season experienced for a long time. In the coastal regions, banana growers have welcomed the return of the market to normality and good prices. Pineapple growers were again guaranteed 4s. 6d. a case at country stations for factory pineapples for the winter crop, and a tonnage rate equal to one penny a lb. for the summer crop. Citrus prices were good. Factory prices for papaws and strawberries increased, and the demand for passion fruit still exceeds the supply. Considered generally, therefore, the position of the fruit industry is sound, and the prospects for next year are even better.

In 1935-1936 there were approximately 12,000 acres of bananas described as "bearing" in Queensland. During 1936-1937 this area was reduced to 10,000 bearing acres, and prices for the fruit rose correspondingly. The consumption of bananas has also increased remarkably. Last year it is recorded that 263,824 cases of bananas were consumed within the State, compared with 184,000 in 1932. This greater demand has also naturally reacted in the growers' favour. The big increase in consumption is undoubtedly attributable to the better quality fruit marketed as a result of the use of scientific ripening rooms.

The pineapple industry is becoming perhaps the most important branch of fruit-growing in Queensland. A feature of the production during the year was the record factory crop of 247,505 cases handled in the winter and 242,096 in the summer, which, with the fresh fruit consumption, made the total production for 1936-37 884,166 cases, compared with 830,186 cases in 1935. A big increase in production is imminent, and it is reassuring to know that a substantial overseas market in the United Kingdom and Canada exists for the canned product. There is also a strong demand for pineapples, both fresh and canned, on the Australian market; so strong, in fact, that nearly the whole of the cannery output for 1936 could have been absorbed at home, but, faced with a heavy increase in production, it was necessary to process for the Canadian and British markets so as to ensure continuity of supply.

THE DAIRY INDUSTRY.

A prolonged dry spell during the spring and summer caused a sharp fall in the rate of dairy production. Drought conditions are now confronting the industry with a serious problem, as the dairy herds of the State were already reduced considerably through the same cause in the previous year.

Never was the lack of adequate water and fodder storage demonstrated more strikingly. Timely assistance was given to dairy farmers by the Department in respect of the purchase of fodder and concentrates for the maintenance of dairy herds in districts where the drought was at its worst.

On the Darling Downs the adverse seasonal circumstances were reflected in the reduced volume of cheese production. There is always the tendency, whenever prices favour butter, for dairy farmers to turn to the production of cream for the manufacture of butter in preference to the production of milk for cheese making.

Seasonal conditions and the incidence of "three-days' sickness" were responsible for a noticeable decline in the proportion of choice quality butter submitted for grading. Following the general rains in March a marked improvement was noticeable. Every effort is being made by the manufacturers and officers of the Department to maintain a high standard of quality.

The investigations and advice of the officers of the dairy research laboratory assisted materially in clearing up the difficulties met by farmers in their effort to deliver a high grade product.

On the Atherton Tableland and other Northern centres where seasonal conditions were normal, the industry continued its advance and the rate of production in those centres shows satisfactory improvement.

The operation of the Australian Dairy Products Stabilisation Scheme continues to give complete satisfaction to those engaged in dairy production. The decreased production was a contributing factor in maintaining the values realised during the past season.

Herd improvement is a matter to which many dairymen are giving attention, but the hard weather conditions caused a slackening of interest in this activity of the Department. A large number of the herds entered for the test were withdrawn before its completion through inability to complete their lactation period. Considerable assistance was given in this direction by the Department and, by means of a rebate of freight on transport of approved bulls, dairy farmers have been encouraged to make use of higher class sires.

A record number of cows was entered for the advanced register test of the several herd books. Unfortunately, many failed to complete the test owing to food shortage. Among the animals that completed their lactation period some creditable performances were registered. This bears testimony to the fact that those dairy farmers who had stocks of fodder on hand were able to overcome the difficulties presented by the abnormal seasonal conditions.

The veterinary services provided for the dairying industry are in constant demand. Dairymen realise their value, and are availing themselves fully of the services offering.

In conjunction with the dairy committees within the local producers' associations, officers of the Dairy Branch organised and conducted field days at regular intervals for the purpose of instructing stock owners in animal husbandry and dairy hygiene. The enthusiasm aroused by this excellent service justifies the belief that the farmers are anxious to improve their methods of production in every possible way.

Following the amendment of "The Dairy Produce Acts, 1920 to 1935," the Cream Transport Committee was formed, and this body has drawn up suggested routes over which definite control will be exercised. By this means it is expected to maintain regular and satisfactory road transport services, and so further assist in the production of choice quality products.

Statistics for the year ending 31st December, 1936—with production figures for the previous year in parentheses—are:—

Production of butter	95,659,684 lb.	(112,499,567 lb.)
Production of cheese	7,582,415 lb.	(9,149,113 lb.)
Butter exported	65,283,792 lb.	
Cheese exported	2,562,416 lb.	
Number of butter factories in State ..	56	
Number of cheese factories in State ..	55	

PIG RAISING.

The 1936 total was 290,855 pigs, compared with 304,888 the previous year, a decrease of 14,033, or 4.60 per cent. Most of the pig-raising is done in the three adjoining divisions of Moreton, Downs, and Wide Bay, and these three account for 255,013, or 88 per cent. of the total. The Moreton and Downs divisions showed declines of 9 and 12 per cent. respectively, but the Wide Bay total increased by 1 per cent.

Additional prominence has been given to pig production by reason of the increasing demand of overseas markets—notably the markets of the United Kingdom—to which, during the past three years, many thousands of carcasses of frozen pork have been consigned from this State.

The opening up of these markets, in addition to a notable expansion of trade in Eastern countries, has pressed so heavily on the pig industry that the supply of suitable stock has fallen somewhat short of the demand, especially as seasonal conditions were not continuously favourable throughout the year.

It is an axiom in Queensland that the raising of pigs, as a commercial undertaking, must go hand in hand with the production of foodstuffs, the objective being to utilize these foodstuffs (milk, grain, greenstuffs, &c.) on the farm for feeding to farm-produced stock, thus reducing expenditure associated with transport of purchased foods.

Commercially, pig raising has to be well organised, and the farmer has to be well informed on every phase of the business. To that end the instructional services of the Department have been planned.

The continued success of this industry is largely bound up in the provision made for fodder and water conservation.

Statistical records show that close on half a million pigs were slaughtered in Queensland during the year ended 30th June, 1937, there being a gradual increase as export outlets expand.

Liberal provision has been made on the manufacturing side, and nine bacon factories and several very large meat export works are available for treatment of the stock coming forward to market. These manufacturing plants are all of modern design, and the products are up to a very high standard of excellence.

The industry has a financial turnover of approximately £1,500,000 annually, and is one in which farmers in every part of the State are interested.

THE POULTRY INDUSTRY.

Figures for the past twelve months show a slight decrease in the production in the poultry industry, due to the increased cost of production. This has been brought about by an advance in the world's wheat prices and the smaller supplies of other cereals used by poultry raisers, resulting from the dry conditions. A decrease in flocks, however, has occurred, mainly with producers who are not dependent entirely upon poultry raising.

Most of the eggs from commercial poultry raisers are marketed through the Queensland Egg Board. For the year ending 30th June, 1936, that organisation handled 5,156,173 dozen eggs, and for the year ending 30th June, 1937, 5,036,690 dozen (estimate).

It is suggested that the decrease in production as indicated by these figures, is brought about by the commercial poultry raiser being forced to cull more severely than in previous years on account of high fodder values, thereby bringing his flock up to a higher degree of efficiency, which will ultimately make for more economic production.

A little less than 50 per cent. of the eggs produced in Southern Queensland are sold within the State, consequently the industry is dependent largely on overseas and interstate markets. As conditions of production have been affected by increased world values of wheat to the same extent as in Queensland, there is every reason to believe that there will be no material decrease in this industry, and, although conditions in the industry are affected, there is no material evidence of the more efficient farmer curtailing his activities.

ANIMAL HEALTH STATION.

The work at the Animal Health Station, Yeerongpilly, progressed steadily during the year. This applies particularly to the tick-fever inoculation work in respect of the number of stud animals inoculated, bleeders, and doses of blood supplied.

Investigational work in connection with the recent outbreak of "three-days' sickness" is being carried out with the co-operation of the entomological and veterinary staffs of the Queensland University and the Council for Scientific and Industrial Research.

In co-operation with the Health Department, experiments are in progress for the purpose of investigating the aetiology and pathology of "Q" fever. In conjunction with the Agricultural Chemist, work also is proceeding in connection with cattle losses due to the saw-fly larvæ.

In view of the importance of the poultry industry, much work has been done in respect of diseases—notably "blackcomb" and "pullorum disease"—and the determination of the most suitable and economic ration for egg production.

The work on contagious abortion has been continued, and an endeavour is being made to obtain an antigen to *B. Abortus Suis.*

A species of Monolia has been isolated from a pigeon, and experimental work is proceeding.

Field experiments have been commenced to ascertain the association of so-called bracken poisoning of cattle with hæmorrhagic septicæmia.

Experimental work has been instituted to find out, by feeding tests, the circumstances under which stock losses are caused by poisonous plants, and also to test out suspected plants.

Studies on the economic importance and control of the large round worm and cæcum worm of fowls have been continued. Losses among cattle due to worms are also being investigated, and a survey has been made of the prevalence and distribution of the species infesting cattle in this State. Some attention has also been given to the treatment of sheep for the nodule worm.

A wide variety of diseases affecting the domestic animals and birds were encountered in addition to those mentioned previously, and the following are amongst the most important:—

> Arsenical poisoning in cattle and sheep; ergot poisoning in cattle; plant poisoning in cattle and sheep; contagious pneumonia in pigs; hæmorrhagic septicæmia of pigs; posterior paralysis of pigs; filariosis of dogs; bacilliary white diarrhœa of chicks; coccidiosis of poultry; and blackhead in poultry.

STALLIONS REGISTRATION.

In continuance of the policy of improving horse breeding standards in the State by the elimination of unsound sires, or sires lacking in type or conformation, the provisions of "*The Stallions Registration Acts,* 1923 *to* 1934," have been extended to include also that part of Northern Queensland within the petty sessions districts of Townsville, Cape River, Charters Towers, and Ravenswood.

Members of the Stallion Board, established under the provisions of the Act, have observed a decided improvement in the class of stallion submitted for examination, especially in the heavy class.

Of the 686 stallions examined, 65 per cent. comprised heavy types; 24 per cent. bloods; 9 per cent. ponies; and 2 per cent. trotters. Rejections amounted to 15 per cent., 40 per cent. of which were rejected because of unsoundness, and the balance for lack of type or conformation.

PURE SEEDS AND RELATED LEGISLATION.

In this State the interests of primary producers in respect of crop and other requirements are protected under the following Acts of Parliament:—

Pure Seeds Acts;
Stock Foods Acts;
Fertilizer Acts;
Pest Destroyers Acts;
Veterinary Medicines Act.

Commodities covered by the abovementioned regulatory legislation must be of the required standard in each case. Farm seeds and other crop requisites are subject, when necessary, to searching laboratory tests.

ECONOMIC ENTOMOLOGY AND PLANT PATHOLOGY.

Insect Pests.—During the year under review, the incidence of such serious deciduous fruit pests as the Queensland fruit fly and the codling moth was relatively light, and on the whole, the pest position at Stanthorpe can be regarded as quite satisfactory.

On the Darling Downs and in the Lockyer and Brisbane Valley, there was a very considerable infestation of grasshoppers, and in some of the wheat crops in the first mentioned district very appreciable damage was inflicted by this pest. Some very heavy layings of eggs took place in the western Darling Downs during the spring months, and an extremely heavy infestation appeared imminent. Abnormally dry conditions, however, supervened, and as a consequence very large numbers of the 'hoppers died almost immediately after emerging from the eggs. Thus, the grasshopper position might have been much more serious had seasonal conditions been normally favourable to plant growth.

Insect infestation of the cotton crop was once more an important factor, but losses due to cotton pests were not so serious as in the 1935-36 season.

The entomological position in the tobacco crops in the Far North showed a marked improvement over previous years, and losses in tobacco from this source were not serious.

White grub infestation in the pastures of the dairying sections of the Atherton Tableland was again at a very high level; but, in June of this year, a very severe disease epidemic affected the grubs, and it is hoped that the white grub population will be appreciably reduced at least for a few years.

Diseases.—The plant disease position was very much as in previous years, and no abnormally severe incidence of disease merits discussion. It is pleasant to be able to record the fact that the disease position in pineapple plantations is very much better than was the case five or six years ago. Blue mould, which has been the most serious problem hampering the revival of tobacco growing in this State, was of much less importance in the tobacco season that has just ended. This is largely due to the fact that seed bed treatments for the control of the disease have been widely adopted.

WILD LIFE PRESERVATION.

The protection and propagation of the native fauna and flora has engaged the attention of the departments interested. The Department of Agriculture and Stock, which is charged with the administration of legislation calculated to attain that objective, receives the co-operation of the Forestry Department and the Land Administration Board, in giving effect to the provisions of "*The Animals and Birds Acts,* 1921 *to* 1924"; and also of the Main Roads Commission in the administration of "*The Native Plants Protection Act* of 1930."

In the course of the year many additional sanctuaries have been established in suitable areas for the protection of native fauna, and honorary rangers have been appointed to co-operate with government officials in checking irregularities.

An open season of one month's duration was declared in respect of the opossum in July last, and as a result a total of 2,214,541 opossum skins were obtained, of which 2,031,000 were exported to London, and 94,000 to New York. Prices were considered satisfactory, as purchases totalling £346,334 showed an average of 37s. 5d. per dozen. This result was much better than that of the previous open season in 1931, both in respect to the numbers handled and the realisations.

TROPICAL AGRICULTURE.

The Bureau of Tropical Agriculture initiated further investigations into grass and tropical crop problems which, as part of a long-range research programme, must have a very far-reaching influence on agricultural prosperity in North Queensland. The necessity of cultivating economic crops as an alternative to canegrowing, apart from other considerations of effective land settlement, is obvious in view of the world sugar situation. Pastures, fodders, tropical fruits, cereals, tea, coffee, fibres, and soil erosion are all included in the investigational plans and activities of the Bureau, of which details are given in the report of the Director.

PASTURE IMPROVEMENT.

Continuous dry weather was the chief hampering factor in the pasture improvement work of the year, but, on the other hand, it stimulated enquiry into the drought-resistant characteristics of both grasses and edible shrubs, to the benefit of the grazing industry generally. Included in the active research work of the Department were winter pasture trials, lucerne fertilizer trials, and mat grass control experiments. A summary of results is published in another section of this report.

ECONOMIC BOTANY.

The services of the Government Botanist and his assistants were in greater demand during the year. Field botanical studies included grass and herbage investigations, which were continued with the object of determining the soil and climatic requirements and the effects of grazing on the more important species of pasture plants, with particular reference to the Mitchell grasses and their regeneration after drought.

Numerous specimens of plants suspected of being poisonous to animals were received for identification from stockowners in many different parts of the State, and also from field officers of the Department. Descriptions of a large number of these plants are contained in the accompanying review of the botanists' activities during the year.

AGRICULTURAL CHEMISTRY.

Samples received by the Agricultural Chemist for analyses totalled 7,006, as against 7,313 in the previous year. In addition, 9,050 samples of glassware—milk and cream bottles, pipettes, thermometers, and burettes—were tested, as compared with 4,857 for the 1935-36 period. Of the viscera and toxicological specimens received for analysis, 76 contained arsenic—evidence that greater care is still necessaryin the prevention of access by stock to any form of poison used on the farm.

Other analytical work done during the year covered soil samples, cereals, grain sorghums, grasses, shrubs, and fruits. The sawfly investigation was continued, and further experiments in collaboration with the Veterinary Science School University have been arranged. Complete details of the year's laboratory and field activities are attached.

BEE-KEEPING.

The inspectional and advisory services in apiculture were continued throughout the year. No serious bee disease was reported. The honey situation is dealt with in my marketing review.

ST. LUCIA TRAINING FARM SCHOOL FOR BOYS.

Notwithstanding the difficulties of an exceptionally dry year, sufficient fodder was produced at the St. Lucia Training Farm by the boys undergoing instruction there in the rudiments of rural industry to maintain the farm stock of every category in good condition.

The Moggill forest property, where instruction is given in practical bushcraft, has been improved by roadmaking and clearing of land for cultivation by the boys as part of their general training.

In the course of the year, 58 youths passed out of the school for employment under good conditions in the country. Two of them were awarded scholarships by the Department at the Queensland Agricultural High School and College. St. Lucia trainees have no difficulty whatever in obtaining and maintaining a place in the land industries. The only difficulty is in meeting the demand of farmers for boys trained at St. Lucia.

LIBRARY.

Many new technical publications have been added to the central library. The record and classification system has been extended. Regular readers continue to increase in number, and every publication is easily accessible to research workers, both within and without the service. The number of requests for library information has increased greatly as a result of the distribution of complete monthly accession lists, by which everyone concerned is kept posted with the most recent world developments in agriculture and animal husbandry. A valuable exchange service has been built up. The divisional libraries of the Department have also been well maintained.

PUBLICATIONS.

The Queensland Agricultural Journal, which has now entered on its forty-first year of publication, is the chief medium by which salient features of departmental policy and valuable advice and topical information on manifold matters of importance to primary producers are made available at negligible cost. Its importance to the land industries cannot be over emphasised, and the only regret is that its circulation is not greater. Approximately 110,000 copies were distributed during the year.

A notable addition to deparmental publications was made at the beginning of the year by the issue of *The Weekly News Bulletin,* which has now reached its fifty-second number. This bulletin supplies advisory information to the country and metropolitan newspapers, and has also proved a very effective link in the agricultural extension service of the Department. Through this medium, approximately 400 authoritative notes of topical and seasonal interest and importance have been made available during the year. The Press has used the material so supplied very extensively. It is desired to acknowledge the co-operation of the Press also in disseminating much other seasonal information in the form of agricultural news, and which has been supplied regularly from the Department.

A very large number of technical bulletins, pamphlets, and advisory leaflets was distributed in the course of the period under review.

Regular broadcast talks to farmers were continued throughout the year from the National Radio Station 4QG and National regional stations, through the courtesy of the Australian Broadcasting Commission. The value of this service to primary producers was demonstrated in a striking way when a grasshopper invasion menaced pastures and crops in Southern Queensland. By radio, departmental officers were able to issue instructions to farmers in the threatened areas on methods of checking the advance of the plague.

Not the least important of the publicity services of the Department is that provided by the photographic section. A modern studio with the latest technical equipment has been provided. Among the many useful functions of this section are the regular distribution of prints and process blocks of rural subjects and scenic interest to numerous Australian and oversea publications; and the making of sets of lantern slides for use in public lectures. Films of various aspects of country life and industry also have been made available for public screening.

In co-operation with the Education Department, material assistance has been given to the extension of farm project work in the primary schools, as a means of stimulating the interest of youth in rural industry.

In addition, numerous addresses on departmental activities and rural economy have been delivered in the course of the year.

GENERAL.

Although necessarily condensed, this survey, together with the accompanying summaries, will enable a general appraisal to be made of the agricultural and live stock situation in Queensland.

It is clear that farmers as a body appreciate the value of technical advice, and that they are eager to make full use of the instructional services of the Department. They are realising the importance of soil conservation —the prevention of erosion by wind and water. A wider appreciation of the fact that correct fertilization means something more than the mere application of crop stimulants is evident. The storage of plant foods in the soil as sound practice is recognised to a greater extent. Rotational cropping and grazing in our farming system is becoming more general. The belief that success in agriculture can only be achieved by planned methods is well established. The necessity of making provision against fodder shortage has been demonstrated to a greater degree than at any other time in the history of the dairying industry. Protection and improvement of native grasses have been bracketed with the establishment of sown pastures of proved stock feeding value. Swards of introduced grasses are extending widely, especially in areas where climatic and other conditions are conducive to their rapid growth. The necessity of correct pasture management and the evils of over-grazing are kept continuously before stockowners.

A systematic campaign for livestock improvement and the raising of standards of animal husbandry has been entered upon. The control and eradication of stock diseases have been continued with vigour.

Soil erosion, as one of the greatest menaces to rural industry, is receiving the earnest attention of the Department, and for the purpose of devising practical schemes of prevention the Soil Erosion Committee was brought into being.

The Government, fully cognisant of the importance of agriculture in the economy of the State, once again came to the assistance of farmers, who through the stress of seasonal adversity were forced to look beyond their own boundaries for fodder, either to maintain dairy herds in production or minimise stock losses in districts where the drought was most severe. This prompt action in a time of emergency helped materially to tide the dairy industry over a period of very great difficulty.

Once again it is very pleasing to be able to record an excellent spirit of co-operation between the Department and every section of primary producers. A continuance of this spirit of mutual help is obviously essential to the progress of the State. It is felt, however, that the Department should not be regarded as of use only in time of need, and that it should be realised more widely that the work of the Department has been planned with the object of ensuring better conditions for the whole countryside. It is, therefore, to the advantage of the entire body of producers to make full use of the facilities provided for them.

Agriculture the world over is confronted with special and extremely intricate problems, of which the marketing and distribution of primary products remain among the most perplexing. To be reasonably profitable, primary industry must have prices for its products which are higher than its fixed charges and production costs. This is plainly impossible when supplies greatly exceed effective demand. In this connection, it is interesting to observe the world-wide growth of economic regulation, not only in trade but in production. In an entirely altered world economic system, a purely competitive and wholly unregulated agriculture can no longer survive. The necessity of readjustment of agriculture to permanently changed conditions has to be accepted. A truism worth repetition with emphasis is that if economic equilibrium between market prices and production costs is to be attained, a concentration on production costs is a necessity; but not, of course, at the expense of the quality of the product.

Farmers have become impressed more deeply with the importance of the business side of the land industries. The necessity of economic foresight and insight has been forced upon them.

The days of extensive farming are rapidly passing. Intensive farming is taking its place. With the passing of the years competition for markets is becoming keener, and only products of the highest quality can maintain their hold.

In the further development of agriculture and related industries in Queensland, due appraisal must be made of all the factors influencing production, manufacture, marketing, and distribution. There is nothing static about the policy of the Department. Reorientation to constantly shifting situations is often essential. New problems arise and have to be faced. An elasticity in policy must, therefore, be conceded, for pace must be kept with changing conditions and requirements. Agriculture, consequently, is subject to continuous economic investigation and adjustment to altering circumstances.

Accounts of the general activities of the Department are contained in the reports of the Director of Agriculture, the Chief Inspector of Stock, the Director of the Animal Health Station, the Director of Dairying, the Director of Cotton Culture, the Director of Tropical Agriculture, the Director of Fruit Culture, the Science Co-ordinating Officer, the Director of Plant Industry (Research), the Government Botanist, the Agricultural Chemist, the Officer in Charge of the Seeds, Fertilizers, Stock Foods, Pest Destroyers, and Veterinary Medicines Investigation Branch, and the Director of Marketing—all of which are incorporated herein.

I am, Sir,
Yours faithfully,

E. Graham

UNDER SECRETARY AND DIRECTOR OF MARKETING.

REPORT OF THE DIRECTOR OF AGRICULTURE.

SEASONAL CONDITIONS.

Throughout the Southern farming and dairying districts the climatic conditions during the year were very unfavourable. With the exception of March, during which average or over-average rains were general, evey month was unusually dry.

Rains early in July enabled farmers to complete the sowing of winter cereals for either grain or fodder, but came too late for the seasonable establishment of winter fodders and grasses.

By September young crops were wilting and pastures were drying off rapidly. A slight revival followed relieving rains, which, however, were neither heavy nor general enough for the firm establishment of summer crops. Scattered storm rains in December brought further relief, but no heavy, soaking, and general rains occurred before March.

The March rains benefited nearly the whole State, replenishing water reserves and reviving pastures. Unfortunately, the April to June quarter was practically rainless, thus neutralising the effect of the early autumn showers.

Seasonal conditions in the North were more favourable, particularly for stock, and grass and water were in abundance.

From December until March continual heavy rains caused waterlogging and washing of the soil. The last quarter of the year was very dry. Growing crops made little progress, although a rank growth of grass provided ample feed for stock.

On the Atherton Tableland and adjacent areas the season was very favourable for the maize, tobacco, and all summer-growing crops.

CEREALS.

Wheat sown on fallowed land germinated well during April and May, 1936. On unfallowed land, through lack of subsoil moisture, only dry sowing was possible before June of last year.

Unsettled weather, yielding light falls, prevailed from 1st to 12th June, enabling the general sowing to commence from the latter date, and to be continued at intervals until mid-July. The crops stooled out well, and made excellent growth during July, without any check from frost, which is usually severe during that month.

August was practically rainless. Absence of subsoil moisture was severely felt, but fortunately the crops were saved by rain at a critical stage of growth in the following month. Although light, the September rain was, generally, sufficient to carry the wheat through to maturity.

Harvesting commenced in October, ripening having been accelerated by the dry conditions, and was practically completed by the end of November. The bagged grain was sound milling wheat of excellent quality.

Although crop returns were under average, it was observed that where the land had been fallowed in the summer and subsequent cultivation thorough, growth was satisfactory and growers obtained profitable yields.

Because of a scarcity of natural feed throughout the Darling Downs, a large area of wheat was utilised by dairymen for grazing purposes.

The high market value of wheaten chaff which prevailed during the drought indicated that a much greater area could be cut for hay annually, thus providing a useful reserve for winter feed or for sale, as desired.

The experience of the 1936-37 season emphasises once more the importance of summer fallowing and thorough preparation of the seed-bed. The spread of black oats provided further evidence of the desirability of long fallows, combined with the growth of purely grazing crops in rotation with wheat.

Growers' returns to the State Wheat Board, Toowoomba, show that the area sown was 350,928 acres, and the total yield was 2,341,679 bushels. Florence was again the leading variety (20·5 per cent. of the area), followed by Flora, Pusa, Three Seas, Gluyas, and Cedric in that order.

Wheat experimental work was continued at Roma and Kincora; while observation plots were established at Rose Hill, Nobby, Dalby, Brigalow, Theodore, and Biloela.

Wheat from the Pittsworth district was awarded the Australian championship for medium, strong grain at the 1937 Sydney Royal Show. Pusa x Flora, with a bushel weight of 68½ lb., was the successful variety. This Queensland-bred variety has been named Puora, and has been approved for general cultivation.

Barley and canary seed crops, also, were affected by unfavourable climatic conditions. The production of barley was reduced to 9,755 bushels; while only very light yields of canary seed were harvested.

MAIZE.

The early-sown maize proved a failure for grain purposes in Southern Queensland. As fodder, however, it was a valuable crop. Many of the later-sown crops were also affected by the prevailing dry weather, and the yield was, in consequence, considerably reduced. The best returns were obtained from late-sown crops which benefited by the heavy March rains.

On the Atherton Tableland an excellent season was experienced, resulting in an estimated yield of 25,000 tons. The demand for Northern maize is strong at satisfactory prices.

Experimental work with maize was restricted to maintaining the standard of five approved Yellow Dent varieties by field and barn selection. To meet the demand for pure seed maize propagation plots were established in the Imbil, Murgon, Kandanga, Kilcoy, Brisbane, and Wondai districts.

POTATOES.

The spring crop planted during July and early August was a partial failure, many farmers on the Darling Downs being unable to plant because of inadequate soil moisture.

The autumn crop planted late in January and in February was more successful, some fair yields being obtained. After the rains in March the risk of frost was a deterrent against more extensive planting.

Some excellent crops were obtained from small irrigated areas in the Lockyer, Fassifern, and Kingaroy districts.

PEANUTS.

Despite somewhate adverse conditions an estimated yield of 7,300 tons of peanuts was harvested in the South Burnett district.

Peanut growing is an expanding industry in the Central and Northern Divisions, where some satisfactory crops were harvested.

In the Mareeba and Dimbulah areas tobacco growers favour the peanut as a rotation crop for utilisation for nut production or as green manure and fodder.

GRAIN SORGHUMS.

To stimulate interest in grain sorghum production seed propagation plots were planted in the Central Division and on the Darling Downs. Attention was given chiefly to the dwarf-growing varieties adapted to light rainfall conditions. On the Darling Downs the plots aggregated 62 acres, the varieties being Kalo, Wheatland Milo, Brown Yolo, Day Milo, and Dwarf Pink.

Seasonal conditions were very adverse. Sowing could not be done until December and January. General rain in early autumn revived the wilting crops. Growth was satisfactory until checked by early frosts which diminished yields. From 6 to 50 bushels an acre was the result, which, in view of the general failure of maize grown under similar climatic conditions, was fairly satisfactory.

On some farms, either an auto-header or a reaper-thresher was used successfully in harvesting. Conditions in the Central Division, where seed of good quality was secured for further distribution, were better.

SUMMER FODDER CROPS.

Sudan grass again proved its value as a grazing as well as a hay crop, particularly in the drier farming regions, where the seasonal conditions restricted the choice of summer fodder crops. Although sowings were delayed until December, some good yields of hay were obtained in the Roma and Wallumbilla districts. On the Darling Downs regrowth followed the March rains and ensured feed for stock until June.

Extensive trials with cowpea varieties on the Darling Downs demonstrated the value of the plant, even in a very dry season.

Sweet sorghums and millets also contributed to available fodder supplies.

FODDER CONSERVATION.

The general lack of provision for annual winter and spring supplementary stock feeding, in addition to provision for droughts which inevitably recur, is still one of the weaknesses of our general cropping system.

An increasing demand for information on this subject indicates a lack of suitable hay or silage making plant, particulaly on small dairy farms where the hand labour methods of fodder conservation in vogue render it impossible to assure adequate reserves.

If it is financially practicable to purchase the necessary cultural and harvesting outfit and provide storage facilities—silos, hay sheds, and grain tanks—with sound management ample reserves of fodder can be stored during normal seasons.

The outlay need not be burdensome, for silage can be conserved in pit, trench, or stack, while haystacks can be protected by a good thatch where a shed is not available. The provision of adequate harvesting machinery would, therefore, appear to be the chief essential.

Reports from the Atherton Tableland indicate that the 1936-37 season was an excellent one, for the growth of summer fodder crops—such as maize, sorghum, and millet—yet very few farmers made provision for any winter feed.

High prices for hay, chaff, grain, and farm produce generally ruled throughout the year.

PASTURE IMPROVEMENT.

Conditions were unfavourable for the establishment of improved pastures throughout the chief farming and dairying districts, so that very little progress could be made in experimental work.

The winter pasture and other trials initiated by the Pasture Improvement Committee suffered severely from drought, only one or two species surviving through the winter and spring months.

It was decided, therefore, to discontinue the lucerne fertilizer trials, apart from those located on two properties in the Harrisville district.

The trial gardens at the St. Lucia Training Farm for Boys and the several propagation plots established in different parts of the State provided a good test for species reputed to be drought-resistant.

The propagation plot at Woodstock was transferred to South Johnstone in August. All species have since made excellent progress, providing sufficient planting material for numerous extension plots throughout the North.

The experience of recent years indicates that in the drier farming areas the practice of sowing winter cereal crops provides a more reliable source of supplementary feed than the growing of winter grasses.

ST. LUCIA TRAINING FARM FOR BOYS.

Despite adverse seasonal conditions, sufficient grain and fodder was produced at St. Lucia Training Farm to maintain the dairy herd, horses, and pigs in good condition. The drying of the water supply dam made irrigation impracticable, and, consequently, the production of vegetables and winter crops was restricted.

The Moggill forest property has been improved by the construction of a new road and the clearing of several acres preparatory to cultivation.

During the period under review 58 boys completed their training and were placed on farms, while two were granted scholarships to the Queensland Agricultural High School and College.

No difficulty was experienced in placing the boys on selected farms. Their allocation is now supervised by the rural section of the Juvenile Employment Bureau.

Lectures on dairying, horticulture, piggery management, and poultry are given by officers of the Department of Agriculture and Stock. Instruction in general agriculture was undertaken by the Training Farm staff, under the supervision of Mr. J. A. Kerr, Instructor in Agriculture.

TOBACCO.

Although the 1936-37 season was not the best for tobacco production, the resultant crops generally were equal to anything yet produced. This was due partly to the fact that the growing of the crop was practically restricted to experienced growers, and partly to fairly satisfactory seasonal conditions.

Better cultural practices, including green manuring and rotational cropping, were evident in every tobacco-growing district.

The yield from 3,545 acres (a decrease of 370 acres) planted, is estimated at 2,113,000 lb., or an average of 596 lb. per acre. Approximately 1,600,000 lb. has been auctioned in Brisbane at the May and June sales. Values have remained firm, and some outstanding crops have been harvested.

The industry has been established on sound lines. The quantity of high-class leaf produced is gradually increasing in proportion, while the average yield per acre is continuing to rise.

Soil.—A gradual change-over has taken place in the types of soil under cultivation during the past ten years. In the Mareeba district the poorer grey sandy soils have been abandoned for the more fertile reddish soils and alluvial soils. The Chewko area has practically been abandoned, while the areas of poor grey sandy soils contiguous to Brisbane have ceased to produce. In the Texas district there has been an obvious tendency to grow tobacco on the lighter soil types—such as occur towards Inglewood and Yelarbon—in preference to the heavy rich flats near Texas which were originally used for tobacco-growing.

Marketing.—No unsold leaf of any value has been left on hand. Since the commencement of the sales in Brisbane in June, 1932, practically the whole of the crop is sold by auction. A considerable portion of the leaf was handled by grading companies.

Future Prospects.—Prospects for the future are bright. Given good seasonal conditions, further progress in acreage, yield, and quality is assured.

Experimental Work.—Commencing with the 1936-37 season, the scope of experimental work was extended, full details of which will be found in the report of the tobacco Agricultural Research Officer. The information gained by the two officers sent overseas regarding methods observed in South Africa and United States of America was made available to growers, and is gradually being adopted and adapted to local conditions.

Seed Supplies.—Seed of Hickory Pryor, Yellow Pryor, Cash, Warne, Gold Leaf, Jamaica, Bonanza, Gold Dollar, and Kelly, drawn from departmental seed selection and seed propagation plots is available to growers.

Tobacco Industry Protection Act.—Experience has taught tobacco-growers the advisability of employing the methods of sanitation provided for by legislation. The number of growers registered was 749.

Field officers have carried out an extensive programme of other experimental plot work, chiefly in co-operation with interested farmers. Crops under test included tobacco, wheat, maize, sorghum, peanuts, pastures, cowpeas, and general fodder plants.

Full particulars of this work are contained in the Research and Field Officers' reports for the year under review.

A. E. GIBSON,
Director of Agriculture.

Staff Reports.

SOUTHERN DIVISION.

Mr. N. A. R. Pollock, Senior Instructor in Agriculture, reports:—

The rainfall registrations at all recording stations, except for the months of July, December, and March, were very much under the annual average; in fact, in most centres, particularly on the Darling Downs, the gaugings were the lowest on record. In the very dry months of August, September, October, and November, during which seed is usually sown for summer growth, soil moisture in many localities was not enough to ensure satisfactory germination or subsequent growth. Until the December rains general crop planting was not possible. Although germination was generally satisfactory, a heat wave in January, and unusually dry weather in February, retarded crop development, and little progress was made before the heavy general rain in March. Mild temperatures in April were an advantage, although the rainfall in that month was very light. Dry weather continued throughout May and June, with occasional frost, and consequently crop growth was checked.

Pasturage was in short supply throughout the year, and this, added to the failure of crops and general inadequacy of conserved fodders, forced the purchase of feed or the transfer of stock to relief country.

In the near South-west—beyond Warwick to Texas and Goondiwindi—the shortage of pasturage was less acute, and the rainfall from December to March inclusive much more satisfactory. The dry weather in April, May, and June, accompanied by heavy frosts in late autumn, have, however, affected the pasturage and hindered the growth of winter crops and herbage.

Beyond Dalby, towards Meandarra and around Chinchilla and Bell, although the season up to December was abnormally dry, a better rainfall was also experienced from December to March, resulting in a satisfactory growth of pasturage. Much of this country provided relief grazing for dairy herds from the Darling Downs.

Water supplies, particularly in tanks and dams, became depleted, and on some holdings exhausted. Irrigation water in McIntyre Brook and the Dumaresq River was also at a low level. Supplies were replenished by the heavy rains in December. Although losses of stock occurred in the early part of the year under review, they were not so serious as in the previous year when seasonal circumstances were largely similar. As a result of the adverse season, supplies to cheese and butter and bacon factories and markets were reduced considerably.

Cereals.

A much larger area than usual, in the aggregate, was prepared for winter growing cereals for fodder as well as for grain. Although a considerable acreage had been prepared thoroughly and dry fallowed for several months, many fields were ploughed and otherwise prepared immediately before sowing. Favourable rains in July ensured a satisfactory germination of seed then sown and of growth immediately afterwards, as well as of the crops that had been growing in the previous months. A very dry August, in which less than fifty points of rain fell in all farming areas, retarded growth. The rainfall in September, October, and November was also, unfortunately, under the average. As a result, many crops failed, particularly on land which had been prepared late, and fodder supplies were very light. Where the land had been fallowed for several months results were such as to emphasise strongly the value of this practice. Yields in general were low, but wheat returns of from nine bushels to slightly more than twenty were obtained. With the higher price, a profit was made by the more happily situated farmers.

Considering all the seasonal circumstances, prospects for the coming year are not alluring. Late maturing kinds of wheat early sown, which received little rain since March, show a tendency to produce flowering stalks and require much rain. Crop grazing has been retarded in many paddocks by insufficient root development. Many areas were dry-seeded in June and await rain for germination. Others still remain to be sown when sufficient rain falls.

Because of the failure of so many summer crops, most of the land has been prepared early, and a much larger area has been cultivated for wheat than in any previous year.

Millets, Sudan Grass, and Fodder Sorghums.

Crops of setaria, panicum, and Sudan grass, sown before December, in nearly every case received insufficient rain to allow of grazing before midsummer. The December rainfall, however, promoted some growth, which relieved many dairymen of the necessity for continuing the purchase of fodder. A regrowth of Sudan followed the heavy rains in March, which provided fodder until frosted in June. Odd areas produced seed of each crop for sale, that of setaria being profitable around £13 a ton. Fodder sorghums did not make satisfactory response until the March rains, and have been valuable for winter fodder.

Pure Seed Selection.

Areas were sown with pure seed of honey and Italian sorghum. Because of the adverse season, very little seed will be available for extending planting areas.

A very small quantity of selected seed of pure Sudan grass was sown, and some seed for further planting was obtained. This strain is slender-stemmed and most attractive.

Fodder Conservation.

Conservation of fodder as hay or silage has not received the attention merited. Hay is made more frequently than silage, but, though stacks were to be seen on occasional farms, there was usually an insufficiency to tide over any lengthened period of shortage. During the past year, more so than in the preceding year, there was little opportunity to make hay, as a consequence of the necessity of hand feeding stock.

The ensiling of crops has been very much less popular, especially when chaffed into containers. Some years ago quite a number of reinforced concrete tub silos were constructed, but very few have been used regularly. Trench silos have been used on some farms, and have proved of much advantage. Recently, much more consideration has been given to ensiling, especially around Pittsworth, where a farmers' field day aroused local interest, and which, in some cases, was followed by appropriate action.

STOVER.

The curing by drying of crops, such as maize and the fodder sorghums, which cannot be treated in the same way as slender-stemmed growths, is seldom practised, although the material is valuable for winter feeding. Stover is made by cutting a crop when sufficiently mature, binding it into sheaves and stooking in the paddock or elsewhere, or by standing on end with a slight incline on either side of a fence or similar structure. From such a store quantities can be removed easily and chaffed or fed whole each day. By conserving fodder in this way, the field can be prepared for a succeeding crop without the loss of time entailed in daily cutting or feeding from the paddock. The material also is of greater food value when cut and cured than when allowed to become heavily frosted.

MAIZE.

Not a single maize crop throughout the division can be said to have yielded a profitable return. Of the crop sown, it is probable that less than 10 per cent. were allowed to come to maturity, the balance being grazed off by stock. Taking the average yields of the Darling Downs as a whole over a period of years, maize production cannot be regarded as profitable. In localities on the immediate slopes of the Dividing Range or contiguous thereto, where the rainfall is more suitable, successful crops can be obtained in an average season, but west of those places the rainfall is not regarded as sufficiently reliable. In the drier country it is planned to replace maize with suitable varieties of grain sorghums.

GRAIN SORGHUMS.

Following the success attending the trials of several dwarf varieties of grain sorghums reported last year, larger isolated areas were arranged for pure seed selection of five varieties.

These were situated as follows:—

Kalo variety—1 acre at Texas, 1 acre at Westbrook.

Wheatland Milo—23 acres at Brookstead, and 5 acres at Irongate.

Brown Yolo—5 acres at Allora, 20 acres at Kelvinhaugh.

Day Milo—4 acres at Nobby.

Dwarf Pink—5 acres at Bongeen.

Seasonal conditions were most adverse, disallowing the sowing of seed before December at Texas, and before January in other places. At Texas, the subsequent rainfall was more satisfactory, and allowed of full seed development before frosts occurred. Elsewhere there was not enough rain to promote reasonable growth before March. After the good falls in that month a remarkably good growth was shown, but frosts prevented much grain from forming, and yields will be low. The harvest in all cases has not yet been completed, but, at Texas, the Kalo variety is expected to yield around 60 bushels an acre. At Allora the Brown Yolo variety, and at Anchorfield and Irongate the Wheatland Milo are respectively estimated as between 15 and 20 bushels per acre. The Dwarf Pink at Bongeen, Day Milo at Nobby, and Brown Yolo at Kelvinhaugh were regarded as failures because of lack of rain and early frosts. At Irongate and at Anchorfield the crop was harvested with an autoheader. With a little adjustment this machine took off the crop as readily as one of wheat.

The drought resistance of these sorghums, and their yields where maize failed, have created favourable comment. Larger areas will be undoubtedly cropped in the coming season. Harvesting with machinery at a low cost, compared with that of maize, will also tend to popularise the crop.

POTATOES.

Lack of sufficient rainfall in August and September, and again in January and February, deterred the majority of growers from attempting production, and considerably lessened the area planted by others. In not one single instance was an appreciable yield secured, most farmers regarding themselves as fortunate if a return equivalent to the seed sown was obtained.

Two experiments designed to demonstrate the value of a green manure for potatoes had to be abandoned, because of an insufficiency of growth in the crops planted for this purpose.

TUBER MOTH.

One result from the greatly lessened areas, as well as the failure of those sown, was the depletion of the tuber moth population, which will be of advantage to crops in the coming season. In a previous report attention was called to the increase of this pest and to consequent losses. Now that districts are comparatively free of the pest, it is thought control could be established more easily. A more rigid inspection of seed, not only on entering the State but of lots offered for sale by purveyors, would, it is thought, greatly assist.

COWPEAS.

In order to determine the relative merits of varieties of which seed was available, and to demonstrate the value of the crop, not only as a fodder but in its effect on the succeeding crop, arrangements were made for 16 trials of one acre of the four varieties—Groit, Black, Poona, and Blackeye—at Swanfels, Pilton, Hodgson Vale, Pittsworth, Brookstead, Pampas, Millmerran, Mywybilla, Willowburn, Glencoe, Kleinton, Westbrook, Murra Murra, Kulpi, Peranga, and Tara, respectively.

The adverse season did not allow of sufficient growth to determine yields at most of the farms where seed was sown, but the drought-resistance of the crop was amply demonstrated, as well as the superiority of the Groit variety over the others. The following comparative yields of fodder per acre were recorded, the letters N.R. signifying no record owing to insufficient growth:—

	Groit.				Poona.				Black.				Blackeye.			
	T.	C.	Q.	L.	T.	C.	Q.	L.	T.	C.	Q.	L.	T.	C.	Q.	L.
Peranga	5	19	3	12	N.R.				5	8	3	0	1	1	2	22
Willowburn	6	1	3	4	4	6	1	20	3	8	3	0	2	3	0	24
Kleinton	4	6	1	20	2	16	0	0	3	10	2	24	2	3	0	24
Mywybilla	7	3	1	16	3	8	2	8	N.R.				N.R.			

SOY BEANS.

One trial was attempted at Westbrook, but was without tangible result because of lack of rain. Viewing the many trials of this crop in different years in this and other parts of the State, it cannot be suggested that the crop is likely to prove successful or to be grown with profit. For fodder purposes, as well as for green manuring, the cowpea is much to be preferred.

TOBACCO.

The production of tobacco leaf—which is confined to the Texas, Yelarbon, and Inglewood districts—again showed a satisfactory advance, both in quality and yield. Of the registered growers, there were 100 engaged actively in the industry. For flue curing, 86 growers cultivated 585 acres; and for sun and air curing, 14 growers had a total of 70 acres under crop. The combined acreage was thus 655 acres.

Seasonal conditions were not favourable to the development of blue mould in the seedbeds. Although it occurred on a few farms, the infestation was not heavy, and there were ample supplies of healthy plants available. In only a few instances was vapour control in the seedbed attempted.

Because probably of the healthy condition of the plants, an excellent strike was obtained, and subsequent growth was vigorous, although little rain was experienced at that time, and more frequent irrigations became necessary.

Good rains fell in December, causing flooding in the streams in the Texas district. Blue mould appeared in the field after the December rain, but, except on three farms at Texas, caused little loss. Several growers in the Texas district lost a portion of their crop through an overflowing of the Dumaresq River in January.

Harvesting commenced early in January, and was nearly completed by the end of March. There were no losses from frost. Because of an earlier harvest a larger proportion of the crop than usual was marketed at the May and June sales. The total quantity then sold was 236,360 lb. for £23,789 19s. 6d., giving an average price of slightly over 24d. per pound—an advance on that of previous years. This weight was somewhat less than half the quantity estimated as the output for the season.

Growers generally are obtaining a better average price than in previous years. When a top price of 42d. appears, the limit of a buyer's offer, an average of 24d. must be regarded as not unsatisfactory. In this connection it is pleasurable to mention the returns of a co-operative tobacco growers' association, which sold 84,566 lb. for £8,915 1s. 1d. A further quantity for disposal at later sales should make a gross realisation of approximately £9,000. It is expected the gross return of leaf sold from these districts will be in the vicinity of £50,000 for flue-cured, and £3,000 for sun-and air-cured leaf.

TOBACCO EXPERIMENTS.

In the course of the year trials with fertilizers were undertaken in three series; cowpeas followed by wheat as green manures, with 320 lb. an acre of the commercial 4-10-6 mixture; trials at the rate of 500 lb. an acre of a similar mixture against a similar quantity, with sufficient superphosphate added to make the total application of phosphoric acid equal to 81 lb. an acre; trials at the rate of 500 lb. and 700 lb. an acre, respectively, of the commercial 4-10-6 against 500 lb. an acre of 6-16-12 and 1,000 lb. an acre of 3-8-6—the latter two providing nitrogen and potash from different sources.

Until the monetary returns are available, the apparent superiority of one application over another cannot be stated, since value is determined by leaf quality rather than quantity. It is thought, however, that the higher applications, which produce leaf of heavier body, and consequently lower value, will not prove profitable, and that the best return will be indicated in the leaf from the trial of green manure with 320 lb. of fertilizer.

PASTURE GRASSES.

The plots for propagation and trial of introduced grasses laid down in a previous year suffered severely through lack of rainfall. Although watering facilities were installed, the restrictions imposed during the greater part of the year disallowed any advantage therefrom. As a consequence of tardy growth, extension from root divisions was impracticable, attention being directed to saving as much seed as possible. An appreciable quantity of most kinds of seed will thus be available for distribution during this coming year.

Seed saved in the previous year was sent to interested persons, but owing to lack of rainfall was not sown, or failed after germination. Advice of the behaviour of kinds propagated from root divisions the previous year points to the drought resistance of *Eragrostis curvula, Digitaria species,* and *Cynodon plectostachyum* (budgee grass) particularly.

Advice is sought frequently on frost-resistant varieties which will make growth during the winter months. Of those available—such as the rye grasses, cocksfoot, prairie—little satisfaction can be expected because of the necessity of preparing the land for sowing each year. All appear to die out during the summer, and do not make a worthwhile growth from self-sown seed the following season. The fact that such grasses have been tried repeatedly on the Downs during the last half-century, and particularly within the last ten years, without a single instance of persistence, is significant. It is considered possible that a strain of Wimmera rye might be evolved, which, like prairie grass, would be reproduced the following season if favourable rain occurred. A dry season, in which such grasses would not have opportunity to shed seed would, however, result in their disappearance. A greater profit is considered to be obtainable from the growth of fodder crops—such as wheat, oats, —for winter, and Sudan grass, setaria, and panicum sp. in the summer, with lucerne in addition. This procedure is now more or less general on district dairy farms. Where land cannot be cultivated on the steeper slopes and broken country, and where frosts are less severe, the fostering of hardier perennial species that would provide a certain amount of feed through the winter is worth consideration.

COTTON.

Very little cotton was grown in the division, much less than usual being planted because of lack of rainfall. A crop of 40 acres at Beebo, in the Texas district, has given a small return, although not payable. Had that crop been irrigated sufficiently and received greater cultural attention, a much heavier return would have been obtained. It is only where irrigation can be applied that success with cotton may be expected, as a heat wave in January is liable to cause a shedding of squares and young bolls unless soil moisture is adequate.

INSECT PESTS

were less in evidence than in previous seasons, and, apart from grasshoppers, caused little loss. At Texas, on a few tobacco farms a wingless species of grasshopper occasioned some damage, and on several wheat farms the plague species did considerable damage to the young wheat crops early sown. Thrips and green fly appeared in tobacco crops, but caused little damage. Leaf miner was noticeably absent, but stem grubs were prevalent in all tobacco crops in early growth. Plant diseases on the whole caused a negligible loss, the dry conditions generally prevalent not favouring the development of fungi.

In tobacco, bluemould occasioned little loss, except on three farms at Texas. Mosaic was in evidence on all farms, but not to any greater extent than usual. Spotted wilt appeared in tomato crops in the south-west, and was detected occasionally in some tobacco crops. Growers have been warned of this trouble. Stunting or dwarfing in tobacco plants, a trouble that is regarded as serious in some States, was detected on several farms in the Texas direction by an officer of the Committee of Scientific and Industrial Research, but was regarded as of slight concern.

Mr. C. H. Defries, Instructor in Agriculture (Roma), reports:—

SEASONAL CONDITIONS.

During the first six months of the year the district was under the stress of extremely dry conditions. Rains which occurred late in June and July were sufficient for wheat planting, but were inadequate to provide surface water. Very strong winds and dust storms were experienced in August. Late frosts damaged grape vines considerably in September. Hot windy days in October and light scattered storms and very high temperatures—up to 106 degrees—in November were the general experience.

The season broke late in December, commencing with useful but scattered storms in the western areas. These favourable conditions worked gradually eastward until by February most parts of the district had received good falls. General rain in March resulted in the flooded condition of all creeks and watercourses. Two dry months followed, with heavy frosts during May. Prospects of rain towards the middle of June were disappointing, and only light falls of little value were recorded.

PASTORAL CONDITIONS.

The most serious problem confronting stock owners during the period was the acute shortage of water up to the break of the drought. Losses, particularly of cattle, were heavy, and would have been obviated in many instances in the scrub country had sufficient water been available. On most properties the winter started with insufficient supplies; and although in the Maranoa the position did not become serious until October, the Western Downs began to feel the shortage very soon after winter.

The reclaimed prickly-pear areas, perhaps, suffered most. The immediate consequence has been marked activity in the excavation of dams and the sinking of bores.

Until November there was enough dry grass to keep stock where water was available. In December scrub cutting had become general.

With the coming of storm rains the country underwent a rapid transformation, and by March grass and herbage were abundant.

Although the previous two dry years retarded development work, progress is evident throughout the reclaimed prickly-pear areas. There is a definite trend towards a change from cattle to sheep, and this is influencing changes in the attitude of settlers towards pasture management and the cultivation of fodder crops.

PASTURE IMPROVEMENT.

Use has been made of extensional plots to give effect to the conclusions drawn from the winter experiment plots of 1936, and the following have been established at the various centres in one-twentieth acre plots:—

> Phalaris tuberosa, at the rate of 3 lb. per acre; lucerne, 2 lb.; Wimmera rye grass, 6 lb.; Wimmera (early), 6 lb.; Wimmera (mid-season), 6 lb.; and Wimmera (late), 6 lb.

In addition, one-eighth acre plots of the early and mid-season strains of Wimmera rye grass were established at Oralla for seed increase purposes.

Sowings after the March rains were made at Oralla, Wallumbilla, Goonalah, Columboola, and Guluguba. Germination was light, and in all cases the first growth was eaten by grasshoppers.

WHEAT.

Nearly all planting for the 1936 wheat crop was delayed until the late June rain, although many growers had commenced dry planting just previously. Beneficial rains followed in July, and crops gained an excellent start. However, hot winds in August and subsequent dry weather affected many crops seriously, and with the exception of isolated areas—such as Hodgson and parts of Wallumbilla, where beneficial storm rains had occurred at flowering time—yields were very much below expectations. The value of efficient summer fallowing was demonstrated adequately during the dry period which followed the July rain, and fair yields were obtained from all paddocks which had received such treatment.

The area sown was greater than in the previous year, but because of shortage of fodder and poor growth in unfallowed paddocks, considerable areas were fed off by dairy cattle.

Favourable harvesting conditions prevailed, and grain quality was particularly good.

In addition to drought, black oats caused a considerable reduction in yields—a reduction that cannot be controlled by the annual summer fallowing methods at present in vogue. The greater use of sheep on fallows is doing something to assist in control, although to be fully effective a twelve months fallow is necessary. It is possible that as more information becomes available regarding the grain sorghum group that such a crop might, to a limited extent, be used as a rotation to permit of winter cultivation and thus assist in control.

WINTER FODDERS.

In order to assess the relative value of various winter fodders, demonstration and trial plots were established on the properties at Wallumbilla and Goonalah. One-quarter acre blocks of the following were sown as follows at the rate per acre set out:—

> Flora wheat, 60 lb.; Cleveland wheat, 60 lb.; Dunn field peas, 44 lb.; black tares, 44 lb.; sunrise oats, 60 lb.; mulga oats, 60 lb.; skinless barley, 60 lb.; Essex rape, 8 lb.; and mustard, 1 lb.

COWPEAS.

Trials with four varieties of cowpeas—Black, Brabbham, Groit, and Poona—and two varieties of soybeans—Biloxi and Ootootan—were conducted at Eumina, Wallumbilla and Goonalah.

SORGHUMS.

Arrangements were made for the planting of areas of this crop for pure seed at Wallumbilla and Dulacca.

Because of the continued dry season, planting was delayed at Wallumbilla until the last week in January. Crops made good progress, although after the wet weather in March a heavy aphis infestation occurred.

An observation trial of thirty varieties was established at the State Farm Reservation.

Half an acre of Italian sorghum was established at Goonalah in January. Growth was fair and the crop was left for seed.

Because of dry conditions, the preparation of land intended for sowing of Sudan grass could not be commenced until late in December. Severe heat waves in January burnt off many areas in the seedling stage. However, some good crops of hay were obtained in the Roma and Wallumbilla areas.

This valuable summer fodder is now receiving more attention in the eastern portion of the district, and excellent late-sown crops were grown in the Jackson, Dulacca, and Drillham areas.

A start was made with a Sudan grass seed certification scheme, and an area of approximately one-third acre was established late in January, from which 204 lb. of seed were harvested early in June.

OTHER CROPS.

The value of Japanese millet, a quick-growing summer fodder for a season such as that experienced, and in which quick results are necessary, was demonstrated at Wallan Creek and Drillham, where crops sown late in the season gave excellent results both for green feed and hay.

Generally, maize crops were not a success, except for isolated late-sown 90-day variety.

Cotton cultivation was confined mostly to the Wandoan area, on new scrub lands.

CENTRAL DIVISION.

Mr. C. S. Clydesdale, Senior Instructor in Agriculture (Mackay), reports:—

Seasonal conditions during the past twelve months were very similar to those prevailing during the preceding year. From July onwards until December very light rains were experienced, and were not sufficient to give the pasture grasses a good start. This protracted dry spell caused great concern to all sections of the farming industry. Relief rains came in December, when 1,025 points were registered—approximately 3 inches over the average. In January and February the rainfall was well over the average. Many tobacco crops were destroyed by waterlogging of the land and soil washing. In March the rainfall exceeded the average by 5 inches, and most of it fell in the first seventeen days. All farming operations were delayed, and road transport was made very difficult.

The last three months of the departmental year have been particularly dry, April and May being below the average by 5 and 3 inches respectively; while the rainfall in June also has been well under the average. The dry, cold weather prevailing during the last quarter of the term retarded the growth of all crops.

The weather conditions experienced generally throughout the division were not favourable from a farming standpoint. The heavy summer precipitations produced a rank growth of grasses, making them unpalatable for stock,

Dairying.

For dairying seasonal conditions have been most unfavourable. Exceptionally dry weather prevailed from July to November.

Early in December good rains fell, and the pastures responded very quickly. In January, February, and March abnormally heavy rains fell, causing rank grass growth. April, May, and June were, on the contrary, very dry and unusually cold.

Substantial progress in the dairying industry is reported.

Tobacco.

Conditions for tobacco-growing were very similar to those of last year. The summer rains were exceptionally heavy. Tobacco soils were saturated, and early planted crops suffered to a great extent through premature ripening and leaf spotting.

After the cessation of the heavy rains in mid-March the later planted crops improved and the leaf spotting gradually became less pronounced.

From the middle of March onwards heavy infestations of cutworms, stem borer, and leaf miner affected the crops severely.

Leaf miner and stem borer have been more pronounced this season than in any previous years. No evidence of their presence was noticed in the seed-beds, and it was only after the plants were in the field that they appeared. This infestation has necessitated the cutting back of a large percentage of the plants, and will no doubt reduce the yield.

With the wet conditions in February and March, "damping off" disease was present in several of the seed-beds, but it was controlled by the use of "chestnut mixture."

The early planted crops in all districts suffered to a great extent from frog-eye, in spite of precautionary measures taken. As soon as the wet weather ceased, however, the spotting became less pronounced.

The number of growers, the approximate acreage planted, and the estimated yields of leaf are as follows:—

Sub-District.	Number of Growers.	Approx. Acreage.	Estimated Quantity of Leaf.
			Lb.
Koumala	11	81	42,000
Sarina	22	96	40,250
Munbura and Balberra ..	9	57	30,500
Dunwold	3	10	5,000
Blue Mountain	1	6	3,400
Pindi Pindi	1	5	4,000

Tobacco Plot Trials.

1936 season.

Green manurial crops to be followed by tobacco; area half an acre, comprising twenty plots:—The land was cropped previously with different classes of fodders, which was kept in good order throughout the off season. The white panicum had seeded, and a volunteer crop appeared, necessitating several workings before being in order for tobacco. The extra workings that the land received, together with the green manure turned under, put the land in excellent tilth.

The crop made fair growth, but was affected to a small degree by the heavy rains in February and March. Harvesting was commenced on the 20th April, but the finalisation of the plot has not yet been completed.

1937 season.

Two Year Rotation (Green Manure):—The experiments have been designed with the object of growing six strips of crops on land which produced tobacco in the previous season. In 1937-38 season the area will be put under tobacco with differential fertilizer treatments.

The manuring crops chosen are:—Crotelaria; corn with velvet beans; tobacco; weed; cowpeas; and peanuts.

Arrangements were made for trial plots in three localities, viz.:—Sarina, Koumala, and Balberra. Details are as follows:—

Sarina.—The land was given good cultivation and was in good order for the reception of the crops. Planted early in January. Germination was very good, except velvet beans.

The maize crop grew to a height of 6 feet; was very spindly and made little or no cob formation, due to the closeness of the rows.

The velvet beans were very low in germination, but the plants which grew made rapid growth.

Peanuts made fair growth in the early stages, but the wet conditions checked this growth. A second growth was made and produced a very heavy crop of foliage, while the formation of the nuts was satisfactory.

Poona pea was most prolific, and made an excellent cover crop.

Crotalaria, during the early stages of its growth, was very slow, due to the very wet conditions. As soon as the rain ceased good growth was made, and this variety grew to a height of 3 feet 6 inches.

All crops were ploughed under early in May.

Balberra.—Planted on the 4th February. The best of conditions prevailed soon after planting, and germination was very good, except that of velvet beans. The heavy rains which followed caused the land to become badly washed and waterlogged. The remaining portions of the crops made little or no growth, and eventually died out.

Koumala.—Due to the heavy rains and the lateness of season, this plot was not planted.

Fertilizer Trials (Latin Square).—A continuation of experimental trials with tobacco was carried out with different fertilizer mixtures.

Types of Fertilizers.—This experiment was designed for a comparison of the quantity and quality of tobacco produced with three types of fertilizer, viz.:—(1) Standard 4—12—6; (2) low sulphur mixture with urea in place of organic nitrogen 6—16—12; and (3) low sulphur mixture with nitrogen supplied by various organic and inorganic sources, 3—8—6.

The crop was up early in January. Wet conditions prevailing during February and March, the land became dirty with weed growth. The experiment was established at

Sarina. Fertilizer was applied on the 30th March and planting completed on the 5th April. A very even stand was obtained, and the plants became established early. A very marked difference is shown in the 6—16—12 and 3—8—6 plots, compared with the 4—12—6 plots. A better and quicker growth was made, and from general observation the 4—12—6 mixture will show a much heavier yield. The leaf generally is very large, carrying good body and curing-out a nice bright colour. The conditions prevailing since the planting of this area have been very dry, accompanied by low temperatures, and it is remarkable to see the growth and vigour that the crop has made (including 3½ acres planted alongside the experimental plot) under these conditions. This area is estimated to show a return of a little over 1,000 lb. of leaf per acre.

Cultivation Trials.—Experimental plots were established in the Koumala district with the object of comparing the different methods of applying the fertilizer and crop cultivation. The land had previously been cropped with tobacco, and several workings early in January brought the land to an excellent tilth. Fertilizer was applied on the 9th and 10th of March, but heavy rains delayed further planting. Planting was completed on the 20th and 21st March. A good strike was obtained, but, unfortunately, cutworms caused considerable damage, necessitating replanting in places. On the 7th and 8th April the first cultivation was done. A second and third cultivation followed on the 20th and 21st April, and the 5th and 6th May, respectively.

The general appearance of the plots shows an improvement in the plough cultivation (American method). All plots made good growth, the average height of the plants being 5 feet 6 inches, carrying good quality leaf. Picking was commenced on the 27th May, and is still in progress. High returns are expected.

Varietal Trials.—Trials were arranged at Sarina under the randomised plot system for comparison of the yield and quality of nine varieties of tobacco. The varieties under trial were:—Hickory Pryor, Gold Dollar, Jamaica Wrapper, Cash, Warne, Yellow Pryor, Bonanza, Kelly, and Maryland Mammoth. Seed-beds were prepared early in the season and sown on the 18th December. Plants made good progress, and every precaution was taken against insect pest and disease. Systematic spraying with bluestone and soft soap was carried out. The area had been under tobacco previously, and early in the season it was planted with Poona pea, which made a quick, heavy growth, and was ploughed under in January. Decomposition was rapid. The crop was hilled up and fertilized with 4—12—6 at the rate of 500 lb. per acre.

Planting was commenced on the 29th January under excellent conditions. All plots were completed with the exception of two Maryland Mammoth plots. This was because of the slow progress of this variety in the seed-bed. Good progress was made during the early stages, but the continued heavy rains in February and March caused premature ripening, and the plants become so uneven that the plot was eventually abandoned.

Vapour Trials with Tobacco.—Experimental seed-beds were established at Mackay for the purpose of testing out different volatile grasses for the control of blue mould. Three beds were established for the use of X300, benzol, and control. The experiments were commenced early in June, 1936, and, because of the excessive wet weather in that month, the sowing of the seed was delayed until the 27th of June. Good germination resulted, and the plants made a vigorous growth. Conditions were favourable during the period of growth, and no mould was present, although this disease occurred in some of the late-grown crops.

To further test the gasses, spores of blue mould were collected and introduced into the control bed, but the disease did not develop.

The seedlings were sufficiently developed and ready for transplanting in six weeks.

It was noticeable that in both the beds in which the liquids were used no destruction was caused by grubs or insects, while the control bed was affected.

Winter Cereals to Precede Tobacco.—In conjunction with other plot work, experiments were arranged at Koumala, Sarina, and Balberra with four varieties of cereals to precede tobacco. The varieties used were Florence wheat, Belah oats, rye, and canary seed. It is proposed to grow these crops during the winter months, and when they have reached their full growth to plough them under. Details:—

Koumala.—Land previously cropped with tobacco. Harvesting completed towards the end of April. The plants were removed immediately and the land prepared for the reception of the cereals. Sowing was done on 24th May. Good germination resulted, and all crops are making excellent growth.

Sarina.—Sandy soil which produced a light crop of tobacco was selected for this trial. Seed sown on the 19th June, and good germination resulted.

Balberra.—Seed sown on 30th. June

DAIRY WINTER FODDER TRIALS.

SEASON 1936.

Experiments were established for the purpose of demonstrating to dairy farmers throughout the district that the growing of fodder crops during the winter months can be successfully practised, thereby supplementing pastures during the leaner periods of the year.

At this time of the year feeding becomes necessary, because the natural pastures become dry and of little value to cows in full profit. Furthermore, values for cream usually rise, and to receive the full benefit of them some succulent feed is necessary as a supplementary ration. Again, if these methods are adopted cows will remain in good condition during the cold months, and normally an increase in cream supplies may be expected soon after the natural grasses put on fresh growth. Under ordinary conditions, where no provision is made for winter feeding, the cows weaken in condition and some months elapse before they return to normal.

The experiments were designed to ascertain the most suitable crops or crop mixtures for the district and to demonstrate that the methods, as practised, were within the reach of all dairy farmers.

An area of forest land near Blue Mountain was selected. It is a deep alluvial type of light brown loam which had been under crop for the two years previously.

The heavy falls of February and March, aggregating nearly 68 inches, caused considerable damage and delay in getting the land prepared for the experiment.

It was intended originally to plant the plot during the latter end of March or early in April, but this was not done until the first week in May, which, in the circumstances, was rather late to expect early supplies of winter feed.

The area, comprising 2 acres with eight plots, each a quarter of an acre, was planted with the following varieties:—Florence wheat, skinless barley, Belah oats, and canary seed, while in the remaining plots these cereals were planted with a mixture of Dun field peas.

The weight of the seed planted in the order named above was 45 lb., 40 lb., 40 lb., and 10 lb. per acre, while the four mixture plots contained the following weights per acre:—Florence wheat, 30 lb.; pea, 20 lb.; skinless barley, 30 lb.; peas, 20 lb.; Belah oats, 30 lb.; peas, 20 lb.; canary seed, 7 lb.; peas, 20 lb. The total cost of the seed for the eight quarter-acre plots, aggregating 2 acres, was 11s. 9d. The seed for the four straight plots cost 5s. 2d. and that for the four mixtures 6s. 7d., excluding freight from Brisbane.

Cultivation.—The land was prepared as soon as conditions became favourable for the work. It was ploughed early in April with a single-disc plough and then harrowed; towards the end of April it was cross-ploughed and harrowed; and before planting, it was reduced to a fine tilth with a spring-tooth harrow and roller.

In the sowing of the seed the usual practice of broadcasting was followed, as no seed-drill was available. When used in mixtures, the pea was sown first and a spring tooth used to give the seed a good covering. The cereals were then sown, harrowed and rolled. This method gave a good covering and compacted the soil, which resulted in a good germination.

All varieties made a quick flush growth and, with the exception of skinless barley, were particularly free from rust.

From the time of planting, 7th May, until the time when weights were taken on 10th August (fourteen weeks), the wheat was the furthest advanced. It had attained a height of 5 ft., was perfectly healthy and full of body in the foliage. It had just reached the stage when the grain was beginning to form in the glume, and within a week or two of attaining its best as a green feed.

Remarkable growth was shown also by the plots containing oats alone and oats with pea, the lastnamed giving a return of the highest tonnage on the acreage basis.

DETAILS.

Florence Wheat.—This crop made a very flush growth and attained a height of 5 ft. and was free from all traces of rust; the flag was broad and, when inspected, was just coming into flower.

Wheat and Peas.—This crop presented a fine appearance, as the peas grew to the full height of the wheat and were out in flower, indicating that this mixture would be a more balanced ration than the wheat sown alone.

Belah Oats.—This crop made rather quick growth, and when inspected was 4 ft. in height, and only an odd plant appeared in the shot-blade stage. Dark green in colour, broad flag, rather fine in the stem, and exceptionally free from rust.

Oats and Peas.—Again the peas made a very flush growth and were noticeable in flower throughout the whole area.

Skinless Barley.—During the early stage, rust appeared and the growth was stunted, with the result that from a feeding point of view this crop was of little value. When inspected, it was only 18 in. high and commencing to die back.

Canary Seed.—This was much slower in growth than the other varieties, and when inspected was about a foot high. The stooling was very good, flag broad and the stem inclined to be large, but not coarse.

Canary Seed and Peas.—The peas were much quicker in growth than the canary seed, and practically had possession of the area, and showed good feeding qualities.

In August, a field day was arranged and many farmers attended.

Similar experiments in winter feeds are being conducted this season in various centres throughout the district.

ONION TRIALS.

SEASON 1936.

Onion growing has been carried out in the Mackay Division for several years, but only as a garden crop, and no information of commercial production is available. In view of the success obtained from these small areas, and the fact that farmers are anxious to grow some suitable crop which may be cultivated profitably in combination with other crops now being produced, experiments were inaugurated with the object of collecting data in respect of soil types, planting periods, varieties, and suitability of the crop to any particular locality; and also to ascertain if marketable onions of good-keeping qualities can be produced.

The experiments consisted of six varieties, which were established with several farmers in different localities.

Unfortunately, the results have been nullified by adverse seasonal conditions to such an extent that no comparison of the varieties could be made. Only one variety—Early White Hunter River—germinated satisfactorily in the major trials. The land selected comprised scrub and forest loams, and at all centres early and careful preparations had been carried out.

Returns obtained from the bulbs grown at Eungella and the O'Connell River serve to indicate the possibilities for this crop. From the Eungella crop, samples were submitted to merchants in Mackay, and offers were made to buy the whole of the crop at a very good price. The onions were disposed of locally, however, at an average price of £28 per ton, These experiments created keen interest among the farmers. Arrangements have been made for further trials at Blue Mountain (2), Eungella, Rise and Shine, and Koumala.

The land selected for the plots comprise both scrub and forest soil. Careful preparation of the land has been carried out at all places, and good seed beds resultd.

Pig Fodder Trials.

season 1936.

Trials of pig fodders were inaugurated with a view to testing out different classes of fodder for pig feeding purposes.

The trials consisted of the following varieties:—

Long red mangels; yellow globe mangels; silver beet; sugar beet; monarch Swede turnips; and dwarf Essex rape. Details:—

Blue Mountain.—It was not until late in March that the first ploughing could be done. Later, a cross ploughing and harrowing and frequent workings with the disc cultivator and harrows were necessary before the soil could be brought to a fine tilth.

Plane Creek, Sarina.—The land was ploughed and harrowed in April, and subsequent workings with the harrows and disc cultivators resulted in an excellent seed bed.

Rise and Shine.—The land was ploughed in April, followed by harrowing and, before sowing, a further harrowing resulted in a fairly good seed bed.

Good conditions prevailed after planting, but unfortunately, indifferent germination was obtained with the long red mangels at all centres. Dry conditions followed the germination, and although careful attention had been given to the inter-row cultivation, the plots at Sarina and the Rise and Shine did not make sufficient development to allow for the computing of the yields.

At Blue Mountain better conditions were experienced, and the crops made a rapid growth, which serves to illustrate what can be accomplished by careful and systematic cultivation of crops suitable for economic pig feeding.

The following acreage returns were computed:—

	Tons.	Cwt.	Qr.	Lb.
Dwarf Essex rape	8	17	3	12
Swede turnips (Monarch) ..	31	19	2	8
Yellow Globe mangels ..	23	6	2	24
Sugar beet	15	11	0	16
Silver beet	18	8	1	20

In the plot containing Monarch Swede turnips, the germination was very good and thinning out became necessary.

Summer Growing Fodder Trials.

Experiments were inaugurated on a request from the Local Producers' Association for the establishment of summer growing fodder crops to supplement the natural grasses, which, in early spring, are rather poor—causing a decrease in milk supplies. The aim of the experiments was to demonstrate to dairy farmers that such crops as Japanese millet, white panicum, sorghums, and Sudan grass can be produced at a very small cost.

The land selected was "scrub," with soil of a deep alluvial type of medium dark loam, and which had been under maize and potatoes for the last two years.

At the outset of the experiment it was intended to have the seed sown early in October, but no beneficial rains were received until as late in the season as mid-January.

The Sudan grass, Japanese millet, white and giant panicum were sown broadcast, while the saccaline and Italian sorghum were sown in drills 3 feet apart.

The sorghums were planted in drills to allow for inter-row cultivation, while the remaining crops were sown broadcast, as it is considered that these crops make sufficiently quick growth to check any weed growth.

Cultivation.—The preparation of the land was commenced soon after the removal of a potato crop, when ploughing and harrowing followed. Early in January a further harrowing was given, and the land was again ploughed and harrowed. These workings reduced the soil to a fine tilth and an excellent seed bed resulted.

The usual practice was followed in broadcasting the seed, which was covered by a light harrowing. In planting the saccaline and Italian sorghum the drills were opened up with a scuffler, and the seed was sown and harrowed lightly. The whole of the area was then rolled, which helped to compact the soil, resulting in a good germination.

The weather conditions experienced after the seed had germinated were very wet, causing the land to become sodden.

Details:—

Italian Sorghum.—This crop made very good growth, averaging 6 feet in height, stems of medium thickness, good broad flag, and contained a good quantity of sugar juices.

White Panicum.—Made remarkable growth and produced a large quantity of green succulent foliage; very dense growth, broad leaf, and averaging 3 feet in height.

Saccaline.—Made very poor growth and appeared to be greatly affected by the heavy, wet conditions.

Giant Panicum.—This crop made fair growth, but not nearly as promising as white panicum. Fine stemmed variety with fairly good foliage.

Japanese Millet.—The germination was a little irregular, and the crop generally showed that the growth was short, coming into ear early.

The experiment showed that white panicum had given very good results under abnormal conditions, and will no doubt be used to supplement the natural pastures in this district.

	Approximate weights per acre.			
	Tons.	Cwt.	Qr.	Lb.
Sudan grass	10	5	1	2
Giant panicum	7	5	3	4
Saccaline	3	9	1	22
White panicum	21	1	1	10
Italian sorghum ..	18	1	0	16

COWPEA TRIALS.

SEASON 1937.

The light sandy tobacco soils, after the first season's crop, show a deficiency of plant food and require building up to produce payable crops. For this purpose, cowpeas are being used, and, as most of the varieties are susceptible to nematode, the infestation of this disease is being increased.

Thirteen varieties were used, including the crossbreds raised by the Agricultural Research Officer (Mr. Soutter), in the experiment.

One object of the experiment was to test out the nematode resistance of varieties, and to increase supplies of seed. Seasonal conditions prevailing during the growing period were adverse, in so far that heavy rains were experienced when the crop was in flower, resulting in some of the varieties dying out.

Four of the varieties showed good resistance to nematodes, and small supplies of seed were obtained for further work in this direction.

The varieties are:—

Large White x Skewbald x Poonah Sel. 1.
Large White x Skewbald x Poonah Sel. 2
Large White x Skewbald x Poonah 3501.
Large White x Skewbald x Mammoth 3509.

WINTER GRASS TRIALS.

SEASON 1936.

Winter grass trials consisting of several varieties of grasses, together with clover and lucerne, were established at several centres in the Mackay district with a view to ascertaining a suitable winter growing grass.

The varieties used in the experiment were:—

(1) Italian Rye grass.
Red Clover.
(2) Wimmera Rye grass.
Lucerne.
(3) Perennial Prairie.
Lucerne.
(4) Phalaris Tuberosa.
Cocksfoot.
Lucerne.

On one farm the seed was divided, half being sown on forest and half on scrub soil. The land was well prepared and was harrowed immediately before sowing. The seed was broadcast, and covered with a light harrow.

Weather conditions at the time of planting were most favourable, resulting in a good germination of the seed, with the exception of perennial prairie, which, however, may not have been covered sufficiently. All plots made fair growth in the early stages, the most outstanding being No. 4, Italian rye and red clover. The clover struck well, but later on was smothered by the rye grass. In all plots a good strike of lucerne was obtained, but rather poor growth was made, the plants being very spindly.

Unfortunately, the conditions prevailing during the growing period were not favourable, and none of the grasses received a fair trial. Good rains fell in June, but the following months until the end of September were unusualy warm and dry, very little cold weather being experienced. This continued dry weather played havoc with the plot established on the forest soil. All varieties withered and died off before reaching the seeding stage; in fact, when only 4 to 6 inches high. On the scrub soil, the results were more satisfactory. Plots Nos. 3 and 4 made quite good growth, in spite of the unfavourable weather conditions. The Italian rye grass grew to a height of approximately 18 inches, and showed a good quantity of seed. The perennial prairie had also seeded, but the remaining varieties died off before reaching this stage.

ARROWROOT.

Experimental plots of arrowroot were established for the purpose of testing out this crop as a pig feed. Crops were planted late in August and the growth generally was excellent, producing a large quantity of bulbs. Arrowroot appears to be very suitable to the district, especially as a pig food.

MAIZE.

SEASON 1936.

A plot of Star Leaming maize was established in the Cameron's Pocket area for the purpose of testing out this variety, and obtaining increased supplies of seed. It was sown early in August. Germination was good, but growth was short and irregular because of dry weather during the growing period. The crop failed to produce grain, but was used as green fodder.

COW CANE.

SEASON 1937.

Several requests were received from the different districts for small experimental plots of the imported cow cane, Chine x Java. Supplies were received from the Bowen district and distributed among several farmers in the following localities:—Pindi Pindi, Wagoora, O'Connell River, Eungella, and Mackay.

SWEDE TURNIPS.

An experimental plot of Swede turnips with an application of fertilizer was established at Eungella. The trial was planted on 25th February. Soon after dry conditions set, necessitating watering. Germination was very good and excellent growth was being made. The crop produced a wealth of foliage well over 2 feet in height, while the bulbs were commensurably well developed, and were still gaining weight on the date of the last inspection. After the turnips had reached a height of a little over 1 foot, they were thinned out to allow for proper development. Although it is still too early to make an estimate of the yield per acre, a high return is expected.

Tobacco Growing at Miriam Vale.

Mr. W. R. Straughan, Instructor in Agriculture, reports:—

There has been a successive annual increase in the area planted under tobacco in the Miriam Vale district since the crop was established there. The area cropped during the year approximated 145 acres. The estimated yield is 77,100 lb. of leaf, an average of 530 lb. of leaf to the acre, including over 23 acres which were not harvested.

Many new growers are engaging in the business of tobacco growing in the district.

The seasonal conditions for the year were very unfavourable. A severely dry spring greatly handicapped seed-bed operations. Fields had to be dry-ploughed. Delays in land preparation were frequent, and a good tilth was difficult to obtain. Hot, dry weather at planting time also hampered progress. Although crops were eventually established, growth was slow, and much leaf was sun-scorched. December and January rains were not enough to promote growth, and in many places established areas actually died off. The first beneficial rains fell in mid-February, after which cool nights followed, and plants did not thrive. Following warmer weather in March, some growth was made. Flood rains later caused waterlogging of all areas and checked further growth.

From local experience planting-out should be done in early November. Seed-beds are, consequently, sown in late September and early October, plants usually being available from four to five weeks after sowing. Very little provision is made for late or successive plantings, plants usually being available from these beds for upwards of two months following the first pickings.

Lack of water for seed-beds caused many growers anxiety. Heavy dressings of fertilizer —usually 4-11-5 and 4-12-6 mixture—seemed, however, to compensate for any physical deficiencies, and good plants were produced.

The usual method of preparation was adopted. The plants produced were free from insect attack. Pests were controlled by the use of arsenical dusts. A remarkably hardy stand was obtained under all conditions and without coverings.

Dry, hot weather prevailed at planting-out time in early November. The soil was dry, and strikes were only obtained when copious quantities of water were given to the plant. Planting-out was usually done on the "flat," i.e., not hilling the ground until after the plants are growing.

Drainage of Miriam Vale soils is controlled by granite rock 2 feet to 2 feet 6 inches beneath the surface soil. The rock formation quickly checks the gravity flow of excess moisture, which then flows along the rock bed, saturating all the soil above it. It is generally surmised that the unevenness of the granite "floors" is the principal cause of the numerous uneven "patches" in local tobacco fields.

In the use of fertilizers, preference is still shown for the tobacco mixture 4-11-5, which passes through a machine easier than other mixtures. Trials of other mixtures have been made, but none has given better results.

Two-thirds of the area under crop was newly cleared land, and with the experience of previous years and last season's results, it is probable that even a higher proportion will be planted in new land in the future.

The most favoured variety was Gold Dollar, which yields well of good quality leaf. It is, however, susceptible to fungoid troubles, ripens too quickly, and does not stand hard conditions as well as some other varieties. The Jamaica variety received considerable attention, and yielded prolifically. It was slower in ripening, and stood hard conditions very well. Cash, Hickory Pryor, and Warne were also planted largely. One area was planted with Dungowan, but its curing results were poor.

Results from every experimental plot in the district were unsatisfactory. Adverse seasonal circumstances caused the comparative failure. Protracted dry weather nullified the influence of heavier dressings of fertilizer.

NORTHERN DIVISION.

Townsville.

Mr. O. L. Hassell, Senior Instructor in Agriculture, reports:—

POTATOES.

Approximately 250 acres were planted with potatoes. Planting was done on the coastal areas during May and June. The results obtained were most disappointing, chiefly because of dry weather in July and August. The potato moth (*Pthorimœa operculella*) was exceptionally destructive in August and September, and accounted for the loss of many tons of tubers, which were attacked before they were lifted.

In the Ingham area one grower planted 70 acres with potatoes, and although the rainfall was most suitable to the crop, a large area was considered not worth harvesting because of very serious nematode attack. The prices obtained on the Townsville market for this crop varied from £7 to £10 a ton. The demand for the local potatoes when first offered was small, as Southern tubers, then available in heavy supply, were preferred by buyers.

TOMATOES.

Tomatoes are grown as a side line, mainly by the Woodstock tobacco-growers on the sandy alluvials near Townsville, Ayr, and Giru. Harvesting commenced in June, and very low prices were realised on the local as well as the Brisbane and Sydney markets. Most of the growers hoped to obtain an increased price with the late crop, but the hot, dry weather during September and October caused most of the fruit to scald and become unfit for sale.

DAIRYING.

Since the breaking of the drought in the early part of 1937, the dairy farmers around Townsville, Ayr, Charters Towers, Ingham, and Silkwood have experienced an exceptionally good season. In the Silkwood area the new settlers at Clump Point have a considerable amount of scrub felled which is being covered with a good mixture of grasses. It should not be long before they will be supplying the local factory.

Citrus Spraying Experiment.—A trial was carried out at Charters Towers to test the efficiency of a fruit-fly lure and bait formulated by a grower in that district. Although several orchards were sprayed, very little information of any value could be gathered, because of the lateness of the season when the spraying commenced and because a large percentage of the fruit had been attacked already by the fly.

Grass Variety Trial.

A grass variety trial was conducted at Woodstock. The plot proved very useful during the several years it was carried on, rootlets being distributed to all parts of the North. With the establishment of the Bureau of Tropical Agriculture rootlets from all the varieties were transferred to South Johnstone.

In the Townsville district, besides the experimental work mentioned, the usual instructional visits to farms in the several sub-districts were made. The districts visited included:—Charters Towers, Ravenswood, Giru, Ayr, Ingham, Cardwell, and Silkwood.

ATHERTON DISTRICT.

The year has been an excellent one, both for the growing and the harvesting of crops. The planting season commenced with a series of thunderstorms, which continued until the end of February. The weather experienced during this period was all that could be desired for the growth of crops, as bright, hot days succeeded the rain storms.

After February there was no appearance of the usual wet seasonal conditions, which include heavy tropical downpours. On the other hand, the summer rainfall was below the average for the district. The winter has now set in dry with a continuation of heavy frosts, which will play havoc with the short grass.

Throughout the northern portion of the Division there has not been any shortage of water, and for most of the year there has been sufficient grass to keep the cattle in good condition and milking well. The comparatively light rainfall during the year had just been sufficient to keep a fresh shoot in the grass, but not enough to give any substantial body of feed. Consequently, since the dry spell set in at the end of April, there has been an acute shortage of grass in some parts, especially in the areas affected by the white grubs. The season generally has been an excellent one for the growing and conserving of fodder.

MAIZE.

The area under maize on the Atherton Tableland was approximately 24,000 acres; the estimated approximate yield is 25,000 tons. These foregoing figures were supplied by the Atherton Tableland Maize Board. Maize-growers have experienced one of the best seasons for many years. The average yield per acre was heavy, and the quality of the grain was excellent, with freedom from diplodia and other moulds.

PEANUTS.

The area under peanuts on the Atherton Tableland during the season was approximately 1,000 acres, from which an estimated yield of 600 tons is in sight.

The chief variety was Virginia Bunch. Its quality was better than that of the previous season, but is not yet up to standard. A large proportion of the nuts were pinched and shrivelled.

DAIRYING.

The season was excellent for the dairy farmer up to the end of April, when a sudden dry spell set in with a shortage of grass and a sudden drop in production.

The output at the Malanda butter factory reached 164 tons in January—the highest for any month since the establishment of the factory.

FODDER CONSERVATION.

Because of the uncertain weather on the Tableland for hay-making during the growing period of the year, the cultivation of crops for grazing purposes has been stimulated. Some excellent crops of white panicum for grazing were grown during the summer.

The area under lucerne is extending. Arrangements to plant five 1-acre plots with lime and fertilizer have been made in different parts of the district. Encouragement is also being given to the construction of pit silos, the type most suited to the Tableland conditions.

OTHER EXPERIMENTAL WORK.

Following is a list of the experimental plots and variety trials in progress on the Tableland under departmental supervision:—

> Soil improvement trial with maize at Kairi; pasture improvement trials at Yungaburra and Upper Barron; pure seed plots with Italian sorghum at Tolga and Kairi; grass variety trials at Kairi, Mareeba, Peeramon, and Kuranda; lucerne trials with lime and fertilizer at Malanda, Ravenshoe, Yungaburra, Julatten, Kuranda, Peeramon, and Daintree River; trials with winter cereals and grasses at Julatten, Yungaburra, Malanda, Ravenshoe, and Mossman; soil erosion experiment at Malanda; and potatoes with fertilizer at Mount Molloy.

Arrangements have also been made to conduct two grass variety trials at Julatten.

Details of all these trials have been recorded.

Mr. T. Graham, Instructor in Agriculture (Townsville), reports:—

A few thunderstorms fell during November, but because of the dryness of the following month, were of very little use to crops. Steady, soaking rain fell in January and February. A week of excessively wet weather followed in March, causing water-logging of the soil and flooding in the water-courses. There has been an abundance of water and pasture for station stock, although because of the dryness of the last few months the grass has deteriorated rapidly and bush fires have become an ever-present risk. Large mobs of cattle have been travelling to the meat works, at which a big kill is anticipated this season.

In the course of the year tobacco experiments were planned and conducted as follows:—Benzol vapour beds; subsidised benzol beds; two fertilizer trials with tobacco.

The results obtained from tobacco this year have been very disappointing. The season would probably have been a good one if advantage had been taken of the early fall of rain in January, but because of the opinion prevailing among growers that the best results are obtained by planting in March, after the wet season, only a few acres were planted early. On this small area growth was normal and the yield high.

Blue mould and damping-off have been particularly severe in the tobacco fields, while the stem borer has also been active.

Some good tobacco land exists at Woodstock, but the soil is very variable. The good areas are small in extent, and are scattered throughout the settlement. The soil contains more organic matter than the far northern types.

The Harvey's Range area has been almost completely abandoned. The soil type is not a good one, and conditions are almost invariably too wet during summer months.

At Woodstock, a considerable area has been reserved for the production of potatoes. This is only possible on the creek alluvials, and where water is available. About eighty acres are being cultivated at the present time. The strike this year has been very disappointing. In some fields, plants were observed to be flowering, while the plant alongside was just coming above the ground. This resulted in very indifferent working, as the various cultivations had to be unduly delayed.

In the Ingham district one grower has planted over forty acres of potatoes, and crop prospects are good. Small areas have been planted alongside citrus orchards in the Charters Towers area, while around Ayr small acreages are also growing.

Because of the very late winter rains only those areas well supplied with water were planted before the recent rain. Around Woodstock it is possible to grow an out-season crop, the area generally not being affected much by cold weather.

At Kalamia (Ayr) two experiments—one with lucerne under irrigation and the other with pineapples—are in progress. The lucerne trial is a particularly interesting one, as large areas of land could be reserved for this crop, and yields could be assured with irrigation water—provided stands can be obtained which will survive the extreme weather conditions experienced in these northern areas.

In the Charters Towers area citrus grows well, particularly on the Broughton River, where water is available; also around Ravenswood. Vegetable crops of good quality have been produced this year.

Dairy farmers have been favoured this season by the excellent growth of Townsville "lucerne," and it is gratifying to see some farmers making the utmost use of this excellent hay. A few ensilage stacks have been made, and many pits filled with sorghum.

Mr. A. Hamilton, Instructor in Agriculture (Mareeba) reports:—

TOBACCO.

The season in the Mareeba district has been an excellent one. Nearly all sections—the Emerald Creek area was an exception—received beneficial rains throughout the growing period. One peculiarity of the season, however, was the prolonged period of thunderstorms extending from early October to late February, a most unusual occurrence in the North. The only really wet seasonal conditions experienced occurred during a short period in mid-March, and from that time onwards the rainfall has been extremely light, and of no benefit to the late-planted crops.

RAINFALL RECORD.

MAREEBA DISTRICT, SEASON 1936-37.

Month.	Wet Days.	Rain.
1936.		
July	2	8
August	..	..
September	5	64
October	3	92
November	2	15
December	13	1,209
1937.		
January	13	366
February	13	667
March	6	691
April	3	57
May	5	36
June	..	..
Total	..	3,205

The area of tobacco under irrigation this season shows a considerable increase over last season, and totalled approximately 350 acres. Of this acreage, 256 were planted in the Emerald Creek area; the remainder consisted of small areas where water was available and convenient. A new area has developed at Tabacum on the Walsh River.

Planting of the irrigated crop commenced as early as August, and extended until early December; the main planting for this crop was made in October.

The Emerald Creek area missed the early thunderstorms, and, as a consequence, crops generally in this area have not realised expectations in respect of either yield or quality of leaf. Perhaps the greatest factor influencing crop mediocrity in this area has been the incidence of "frog-eye" leaf spot, which was influenced in turn to some degree by the climatic conditions experienced. Nematode infestation, which was apparent in most crops in this area, was another limiting factor. Despite these influences, some excellent crops were produced—mostly the product of new land, where deep and thorough preparation subsequent cultivation of the land had been practised. These practices, coupled with the production of strong, vigorous and healthy seedlings, demonstrated amply what can be done under adverse weather conditions. The season also demonstrated that irrigation alone will not produce the heaviest crops.

Of the main crop, most of it was planted from late November to mid-January, during which excellent rainfall and growing conditions were experienced. In some sections, damage was caused by heavy winds which accompanied the thunderstorms, some crops being blown down as many as three times within a fortnight. Despite these unpleasant experiences, most of the crops made excellent growth, and the prospects of a record harvest appeared particularly bright.

Disease and Insect Pests.—Blue mould made its appearance in both seed-beds and the early-planted crops during late December. Damage in the field was confined chiefly to bottom leaves, although, in some instances, the mould caused concern by the way in which it developed high up on the plants. In the seed-beds considerable loss occurred. It was only in benzol and colloidal copper-sprayed beds, or, in those cases in which a combination of these treatments was employed, that seedlings escaped serious damage. Most of the seed-beds which received other treatments, or no treatment at all, suffered severely, being in most cases wiped out completely. The incidence of blue mould during this period was easily the worst that had been experienced in the district since the industry commenced. It was during this period that on the subsidised seed-bed areas the value of benzol vapour in the control of blue mould was demonstrated.

"Frog-eye" leaf spot also caused considerable damage, and both yield and quality were seriously lowered.

The bud worm and the cluster caterpillar caused considerable damage to crops in the Emerald Creek area during the early part of the season. The green vegetable beetle also attacked several crops in the Emerald Creek area. The attack of this pest was restricted chiefly to the young growing leaves or centres of the plants, so that the plants had to be "topped." This "topping" of the plants before the plants had attained the proper stage for this operation meant that much extra suckering of the plants had to be done.

Stem borers and leaf miners generally gave little or no trouble, and most crops were practically free of these pests.

Nematodes are, undoubtedly, becoming each year a more serious pest.

Of other crops grown in the district, the area sown to peanuts shows a considerable increase over the past season; and the quality of nuts produced, more especially on the red sandy soils, is superior to those grown last season. The value of this crop is threefold, firstly a return can be expected for the nuts, secondly the value of the hay as fodder amounts to a considerable saving in the annual feed bill, and thirdly their value as a rotational crop is undoubtedly most beneficial. Even if no return is received for the nuts their value as hay and as a soil renovator makes their inclusion in the annual farm plantings well worth while.

The area sown with cowpeas also shows an increase over the past season.

Tobacco growers in the Mareeba district number 186. The total area planted with tobacco is approximately 1,291 acres. Both the number of growers and the aggregate area planted shows a slight decrease over the figures of previous season. This is due to the decrease in the number of growers in the Carbeen, Chewko, and Tabacum areas. The Biboohra and Bilwon areas also show a further decrease. On the other hand, growers in the Emerald Creek, Paddy's Green, and Barron River areas have increased, and their acreages have extended.

Returns of the first tobacco leaf sales show that a total of 234,000 lb. of leaf was sold for a total value of £24,587 7s. 7d., the gross average price being 2s. 1d. per lb. to the grower. Allowing 4½d. a lb. to cover grading and all selling charges, the average price to the grower was reduced to 1s. 8½d. As this average price represents the value of practically the best of the crop, the final average price for the whole of the crop will, obviously, be considerably less.

Mr. Royce C. Cannon, Instructor in Agriculture (Dimbulah), reports:—

TOBACCO.

The main tobacco-growing area in this district is situated within a radius of ten miles around the township of Dimbulah. A small number of growers are located in the Morgan Settlement, Mount Garnet, Innot Hot Springs, and Tumoulin areas. Within the Dimbulah area proper, there has been a definite trend during the past season towards improved farming methods, and a general stabilisation of the industry. Where possible, most of the less suitable land has been allowed to go out of cultivation, and tobacco has been grown only on the well-drained areas of red sandy soils, grey sandy soils, and grey and pink sandy loams. There is still room for expansion.

In the past season, approximately 1,000 acres of tobacco were grown. The number of growers approximates 120, giving an average of 8 acres for every grower. The leaf produced has been of good quality, the yields high, and the percentage of failures exceptionally low. The stands obtained were very good, which is attributable partly to the season and partly to improved practice in seed-bed and general management. Greater attention has been given to consolidating the original stands, and the crops have been subject to better cultivation throughout their growing period. High yields of 1,000 lb. per acre and over have been quite common, the highest authentic yield for any reasonable area brought under notice was a gross average picking of 1,450 lb. an acre over an area of 9 acres. The original estimate of 300 tons for the district will be reached and possibly exceeded. On the whole, the past season has been the best in the history of tobacco-growing in the district.

SOIL PREPARATION.

Before the commencement of the growing season the land was in good condition, as a result of suitable rains combined with thorough cultivation. When planting time arrived most areas were clean and free from weeds, were in good tilth, and retained a fair moisture content. These factors, combined with the rains which initiated the planting, favoured good stands of young plants which were in a position to make rapid growth.

FERTILIZERS.

The most popular fertilizer mixtures proved to be 4:12:6, 4½:12:4½, and 4:13:4 at rates varying from 500 to 700 lb. an acre for the lighter soils; while 2: 15: 4 at varying rates has been practically universal on the richer alluvial soils. The experience gained has enabled the fertilizer requirements of areas of soil to be determined more accurately, and very few fertilizer difficulties arose. Cases of "sand drown" or magnesium deficiency have been observed from time to time, but it is considered that these are more apparent than real. The symptoms coincided with droughty conditions in their occurrence, and it is probable that under such conditions the element would not be available to the plant. One case of potash deficiency was also noted, apparently the result of leaching effects following rains at a late stage in the growth of the crop.

Some departures have been made from the usual method of application of fertilizers which consists in distribution of the fertilizer in a narrow band along the length of the hills. Many growers have partially or wholly adopted the practice advocated in the United States of America, which consists essentially in distributing the fertilizer more evenly throughout the whole volume of soil in the hill. The procedure has been to open a shallow furrow into which the fertilizer is placed by the means considered most convenient, then the whole of the soil is stirred with a scuffler, thereby incorporating it more thoroughly in the soil. Following this, the hills were in most cases formed in the usual way with a "cotton king" or "wiggle-tail." Where this method has been employed the resultant stand has been fairly even, which tends to bear out the American experience that concentration of the fertilizer in a narrow band damages the root system and results in a higher percentage of "misses."

ROTATIONS.

In recent years growers have been considering seriously the advisability of adopting some definite rotational programme. It can be seen that land under continuous production has decreased in fertility. In order to overcome this the land must be enriched by some means, unless new land is to be cleared every year. There is a definite limit to the area of uncleared land available on farms, so that some form of soil amelioration is required. Another very important factor in the question of rotations is the serious proportions assumed by the nematode pest over the whole range of the soils in the district. The crop which appears to satisfy both these conditions—soil improvement and nematode-resistance—is the peanut. Growers have been encouraged in the cultivation of peanuts, and a total of more than 60 acres was grown during the season. In most cases, the crops were good, and the nuts have been harvested. There still remains the doubt as to the advisability of following a legume immediately with tobacco on the basis of nitrogen relationships. Unfortunately, the green manurial experiment involving peanuts was a complete failure, and no accurate information has been made available on this point. Satisfactory yield and quality have been obtained in the other experiment following several other legumes, and one or two growers grew small areas of tobacco immediately after peanuts with some degree of success. However, with the meagre information available it would be deemed preferable to resort to a three-year rotation, which would have a distinct advantage from the point of view of the reduction in the nematode fauna.

VARIETIES.

The choice of variety has been influenced to a very large extent by personal fancy and prejudice. With the marked variation in seasonal conditions and cultural practices, it is no easy matter to differentiate over a period of years in favour of one or more varieties. Last season a varietal trial was laid down to include nine varieties of tobacco. Complete results from this experiment are not yet available, although certain differences are fairly obvious. The varieties most generally favoured are Hickory Pryor, Warne, Cash and Bonanza, while smaller areas of Yellow Pryor, Jamaica and Gold Dollar have been grown. Two of the new introductions to the district, Gold Dollar and Kelly, appear to be at least worthy of further trial, while, on the other hand, Maryland Mammoth proved most disappointing.

SEED-BEDS.

A definite improvement has been noted in seed-bed management, much greater attention having been paid to this important phase of tobacco culture. As a result of improved methods there were abundant healthy seedlings in the district, despite an apparent shortage towards the end of December because of planting having been done at a time earlier than that for which provision had been made for extensive planting. Very few growers attempted to grow seedlings without some precaution against disease.

Colloidal copper sprays remain in favour, and have proved quite satisfactory where treatment has been thorough. Not more than 20 per cent. of the seedlings were grown under gas, primarily on account of the higher cost of materials.

One outstanding point in connection with disease control was the consistent appearance of "frog-eye" spot in seedlings grown entirely under gas. Beds which had been sprayed with colloidal copper remained comparatively free, even in one instance where spraying had been only carried out once or twice in addition to the regular benzol treatment. It is, therefore, deemed essential to include regular spraying with gas treatment as a precaution against this spot.

In the Dimbulah area sixteen subsidised benzol seed-beds were located. These were constructed and treated according to specifications up till the time of payment of subsidies. After this date, some laxity was brought under notice, and strict supervision was necessary to ensure efficient treatment till the plants had been disposed of. A total of some 150,000 seedlings were produced under this scheme, and of this number about 45,000 were actually used in meeting the needs of farmers other than those with whom the beds were located; 65,000 were used by the owners, and 40,000 were destroyed through lack of demand. These beds served a very useful purpose in familiarizing growers with the technique of gas treatment.

Only minor damage was caused in the seed-beds by the various insect pests. The incidence of stem-borer was very slight, while only odd cases of leaf-miner infestation were in evidence. Cut-worm damage was very slight in practically all cases. In certain areas some damage resulted from the ravages of grasshoppers, although the pest could at no time have been regarded as serious.

Once again the "yellow patch" condition was prevalent and considerable losses were experienced as a result of its insidious effects. The importance of this seed-bed trouble cannot be underrated and further investigational work is warranted.

PLANTING.

The general consensus of opinion has been in favour of a general planting during the wet season rains, which are usually expected before the end of January. A few growers favour early planting after one or two storms have supplied some moisture to the soil. Where such a system is adopted it has often been found necessary to resort to hand watering in the field when a comparatively dry period has followed. A series of storms was encountered during December, and, one by one, growers planted up portions of their total area. More than 600 acres had been planted before the end of December, and the crops made good growth in the earlier stages. Afterwards, a very dry period of about a month was experienced, and before the end of January many of the young crops were showing the effects of these conditions. Older crops were wilting badly during the day, but freshened up somewhat overnight. In a few fields in which it was done the beneficial effects of continuous light cultivation were most obvious. The next rains received were early in February, when growers were to complete their planting. This rain occurred as storms with intervening periods of bright sunlight—a set of conditions which proved excellent for the promotion of rapid growth. Within a very short time, most crops had made a definite response and were growing vigorously. The only exception to this was the small area which had been planted out very late in November and very early in December. It had experienced such a series of adverse conditions that the plants were badly stunted, and made only a slight response to the improvement in weather conditions. These crops began to flower while still stunted, and very poor yields have resulted.

The main crop experienced good conditions for growth, and had reached a stage approaching maturity before the onset of the wet season early in March. In fact, many crops were in the course of being harvested before the wet season rains commenced. No adverse effects of this rain were reflected in the curing, little or no "new growth" being apparent.

CULTIVATION AND MANAGEMENT.

Cultivation methods during the past season have been more intensive and more thorough, and results obtained would certainly appear to warrant this increased effort. Concentration on early cultivation has been most marked, and in some cases growers attempted "plough cultivation" or a modification of this practice with good results. In a limited number of cases, the area undertaken was greater than the growers could cope with, and as a result the whole crop suffered.

With the delayed wet seasonal rains growers were in a quandary as to the most desirable procedure for topping. Consequently very high topping was practised to allow for the sudden growth which might be expected to follow these rains. In most cases, crops were maturing before the rains came, and no second topping was possible nor desirable. With few exceptions, sucker growth had been kept well in hand, and the crops were generally very clean and free from suckers of any great size.

PESTS.

The worst insect pests of tobacco, the stem-borer and the leaf-miner, caused very little damage during the season. A few cases of serious stem-borer damage were observed, but in every instance this could be traced to infestation from the seed-beds. The scarcity of these pests may be attributed to a combination of four factors, namely, destruction of old stalks at the conclusion of the previous season; greater protection of seed-beds from insect attack; healthy, vigorous growth of seedlings and young plants in the field; and generally favourable weather conditions.

Early in February two cases of damage to crops by the green vegetable bug were reported. These areas were adjoining, and it would appear that the prevailing dry period had forced these insects to forsake other hosts in favour of the more succulent tobacco. The part of the plant attacked was the growing portion from the tip to within 12 inches of the tip. The mode of attack was to insert the proboscis deeply into the plant tissue as far as the pith, which had a dried, brownish appearance. The upper portion of the plant subsequently wilted and died. The growers concerned hand-picked the adults from the plants and within a few days only odd insects could be seen. Removal of the affected portion of the plant was carried out, and a sucker allowed to take its place.

From the beginning of March onwards the cluster caterpillar, *Prodenia litura*, had comcommenced activities. The damage caused by this pest was quite considerable, more especially as it occurred at a time when the application of poison dusts is very risky, because of possible residual coatings of arsenates on the leaf surface. Many growers applied coarse poison baits, but their value is limited on account of the habit of feeding some distance from the leaf axils where most of the bait will accumulate. Hand-picking of the caterpillars is effective, but tedious and costly.

DISEASES.

Blue mould did not assume serious proportions until February, when its spread in the field commenced during the stormy period early in the month. It spread very rapidly up the plants and very few crops escaped some damage as a result. The subsequent dry period held the disease in check, but not before damage had been done, in some cases as far as half-way up the plants.

The occurrence of "frog-eye" leaf spot was early noticed in many seed-beds, especially those grown under gas treatment. In the field it made its appearance in many crops throughout the district, but as crops progressed very little spot was in evidence, and at no time could it have been regarded as serious. The two factors responsible for comparative freedom from bad spot were early, heavy priming and thorough cultivation. With the rainy period in March spot again made its appearance, in most cases fairly high up the plant, and remained for about two weeks in most crops. Apparently, the organism had remained dormant in the plants, and became active during the wet period. The experience of most farmers was that two or three cures at this period showed leafspot, and that the leaf was clean in subsequent cures.

CURING.

The harvesting of leaf commenced towards the end of February, and continued on a large scale throughout March and April. Leaf ripened very rapidly once maturity had been attained, and some difficulty was experienced in coping with the consistent demands of this work. It is estimated that losses were sustained in cases where insufficient barn space was available.

The quality of the leaf has been such that curing presented few difficulties. Some losses were sustained over a short period of a few days as a result of leaf having been harvested in the rain, with the consequent failure to drive off the excess moisture sufficiently rapidly to obtain bright colour.

GRADING.

Despite the fact that many growers favoured farm grading, operations in this direction were limited. The main difficulty was the reduction in available space, because of the large quantity of leaf produced. Many growers were, therefore, forced to send their leaf to various grading organisations in order to make space available, as well as to have leaf ready for the first auction sales of the season.

EXPERIMENTAL WORK.

A serious attempt has been made during the past season to increase the volume of experimental work carried out. Eighteen experiments were planned, including seed-beds, variety trial, green manurial trials, fertilizer trials, cultivation trial and topping trial. This programme involved the harvesting of tobacco from six acres, which have yielded about three tons of good quality tobacco. Although few farmers were in a position to take a very active interest in the experiments during the busy season, very keen interest has been evinced in the work, and inquiries are being made continually as to results and conclusions.

Mr. E. R. Ashburn, Instructor in Agriculture (Bowen), reports:—

WEATHER CONDITIONS.

Following the beneficial rains of June, 1936 (568 points) a totally dry spell of five months' duration was experienced. Early in December drought conditions terminated, and by the end of the month the district had materially recovered.

Unlike previous seasons, the December rainfall of 1,029 points was followed by only 140 points in January. February and March, like December, were wet months. Of the 27½ inches recorded for approximately twelve months, the summer rains supplied almost 23 inches, leaving a meagre 4 inches distributed over nine months.

From the pastoralists' viewpoint, the season was acclaimed a good one, but for the farmer the weather conditions could not have been very much worse.

The first cold snap was experienced in June this year, and in some localities heavy frosts occurred, quite an unusual happening at that particular time of the year.

CROPS.

TOBACCO.

The inadequacy of the amount of fertilizer used, and in many instances its total absence is reflected in the quality of the leaf produced from previously cropped lands.

This defect will, no doubt, be remedied in due course, by rotational cropping and sound fertilizing practice.

Although payable crops resulted from December plantings, leaf spot made a general appearance after heavy rains and dews in February.

February and March plantings all suffered more or less from the widespread incidence of leaf spot; but as weather conditions were against the progress of this scourge, the general health of crops improved so much that cured leaf attained a high grade.

Although finality in connection with most of the tobacco trials will not be reached until late in July, it is estimated that the most beneficial results will come from rotational cropping, and the use of certain fertilizers.

PASTURE IMPROVEMENT.

Mr. C. W. Winders, B.Sc.Agr. (Assistant Agrostologist), reports:—

Throughout the year weather conditions in the main dairying districts and adjacent areas were most unfavourable to pasture establishment and improvement, and little progress in experimental work could be made.

Despite the trying conditions experienced, or perhaps because of them, the volume of correspondence dealing with pastures, and the number of personal interviews on pasture matters increased greatly.

The inadequacy of the standard pasture types during protracted dry periods stimulated a demand for information concerning pasture plants with a high degree of drought-resistance, and a large number of enquirers was supplied with trial lots of seed of the Mitchell grasses and saltbushes. It is unlikely that these plants will supplant such valuable pasture grasses as Rhodes grass and paspalum in agricultural and dairying districts, but they may have some value in certain districts as reserve pastures for drought feeding.

WINTER PASTURE TRIALS.

Under the aegis of the Pasture Improvemnet Committee, several winter pasture trials were conducted. All the plots suffered severely from dry weather conditions, and only one or two species survived the winter and spring. The dry autumn (1937) caused the abandonment of preparations for several trials, and only one was finally established.

The farming and grazing groups have displayed great interest in winter pastures, and during the last three or four years have come to realise the limitations of many well-advertised species under local conditions.

LUCERNE FERTILIZER TRIALS.

For various reasons, most of the lucerne fertilizer trials initiated by the Pasture Improvement Committee were discontinued during the year. Two randomised block trials were arranged on properties in the Harrisville district and yield data collected. Unfortunately, droughty conditions and the torrential nature of the storm rains which fell during the growing period vitiated the yield results to such an extent that no significance could be attached to the data.

MAT GRASS CONTROL EXPERIMENTS.

The trials reported last year were continued, but no definite results have as yet been obtained. Various chemicals destroy the plants, but owing to regeneration from seed frequent sprayings are necessary, and the cost may be prohibitive. The cultural treatments yielded little information because of the protracted dry spell.

TRIAL AND PROPAGATION GARDENS.

The weather during the year provided a good test of the drought-enduring properties of the pasture plants in the trial garden at the St. Lucia Farm Training School, but it also prevented the establishment of fresh seed lots obtained from various sources. In addition, climatic conditions were too severe to permit of the establishment of the grazing trial areas forecast in last year's report. The demand for planting material for use in farm plots was lighter than in previous years, and of the roots and slips supplied to farmers and graziers, few could be expected to become established.

CO-OPERATION WITH COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH.

Two meetings of the Council for Scientific and Industrial Research Technical Committee on pasture plant improvement investigations were attended during the year. The work being carried out under the supervision of the Committee includes breeding and selection work with lucerne, Mitchell grasses, Phalaris, and other pasture plants.

AGROSTOLOGICAL CONFERENCE.

Invaluable contact with pasture workers and agrostologists in other States was made during a visit to New South Wales, Victoria, and South Australia in connection with the second conference of agrostologists. Information was gained which has since been of great value in local pasture improvement work.

PUBLICATIONS.

Regular contributions have been made to the *Weekly News Bulletin,* issued by the Department. A lengthy manuscript dealing with sown pastures and their management was prepared and submitted for publication in *The Queensland Agricultural Journal.*

TOBACCO EXPERIMENTS.

Mr. L. F. Mandelson, B.Sc.Agr., Agricultural Research Officer, reports:—

A detailed discussion of climatic conditions, the incidence of pests and diseases, and other factors influencing crop production in the various tobacco districts during the 1936-37 season is given elsewhere by the officers in charge of these districts.

In the course of the period under review a fairly comprehensive plan of tobacco research was initiated with the object of investigating some of the more important problems of tobacco production, both in the seedbed and in the field. Results of field experimental work will not be available until the leaf from the various plots has been sold and the data so obtained analysed.

TOBACCO RESEARCH.

Tobacco presents several unique practical difficulties for the experimenter, which necessarily limits the type of research programme which can be undertaken. Firstly, quality with tobacco is of far greater importance than yield, and consequently experimental results must be expressed in figures which combine both yield and value, which necessitate much time and attention, to be of practical significance. Even the normal harvesting of tobacco involves a great amount of handling, since there are several harvests as the leaf matures. Each leaf must be handled separately for curing, and further handling is involved in the periodic examination of bulks, in grading, and in the baling of the leaf for market. With field experiments, however, the labour and attention required are greatly increased, since each plot must be considered as a unit, and a record made of the various grades obtained. Consequently, a typical field experiment of, say, twenty-four plots, in addition to the handling indicated, would necessitate a great deal of labelling, the tabulation of more than a hundred weights, and considerable personal supervision. After the leaf is sold, still further attention is required in order to arrive at an accurate estimate of the value of individual plots and the significance of the experiment. Secondly, the tobacco plant is remarkably sensitive to its environment. The quality of the leaf may be greatly affected by variations in soil, and hence considerable care is required in selecting suitably uniform locations for experiments. A more serious hazard is caused by fluctuations of seasonal conditions. Since much of our tobacco is grown under tropical conditions, where abnormally heavy precipitations are to be expected and prolonged dry periods are not unusual, there is always the danger that some or all of the experiments in a district may be ruined by extreme weather conditions. Finally, tobacco is probably subject to more pests and diseases than any other crop, and this factor tends to produce uneven stands, and consequently makes the accumulation of precise experimental data difficult.

Because these difficulties are to be anticipated, a tobacco experimentalist must endeavour to allow for numerous unsatisfactory plots by as much repetition of plots as possible. Nevertheless, owing to the great deal of handling with each unit, he is strictly limited in the actual number of experiments that can be attempted. In an attempt to obviate these difficulties, and yet cover as wide a field of investigation as possible, it was found necessary during the past season to include small, simple experiments, incapable of giving a high degree of precision, as well as complex experiments which necessarily could not be established as generally as might be desired.

TYPES OF EXPERIMENTS.

The research programme included several types of experiments. These experiments aimed at the investigation of disease, pest, and nutritional troubles associated with seedling raising as well as with the crop in the field. In order to cover the latter aspects fairly extensively with the facilities available, two types of experiments were established. One, which has been classified as a "field trial," is of relatively crude design, consists of a small number of plots, and hence is handled with comparative ease. It was used for roughly exploring lines of investigation, such as likely crops for rotational purposes, or cultivation procedure, as well as to serve as demonstrations. The other type, which has been classified as a "field experiment," consists of a large number of plots, and is capable of satistical analysis. It has been utilised to obtain precise information on various matters, such as varieties, "topping" practices, and nutrition. The number of such experiments which could be located in any one district, however, was strictly limited, owing to the labour and attention involved. Seedbed troubles were investigated by the use of seedbed plots of various degrees of complexity.

SEEDBED EXPERIMENTS.

The recent development of a method of controlling blue mould in tobacco seedbeds with benzol vapour by the Council for Scientific and Industrial Research necessitated the institution of several demonstrations and subsidiary investigations. Prior to the commencement of the season small seedbed plots were established in the northern districts to familiarise officers with this method of disease control, to obtain data on the efficiency of benzol and toluol, and also to develop a cheaper type of gas-tight seedbed than had previously been advocated. In the course of the season a larger experiment on similar lines was attempted at Miriam Vale, but, owing to the absence of disease in this district during the past season, it was not possible to obtain results on disease control. However, at this centre, as well as at Gayndah, calico dressings for seedbed covers, which had been investigated by the Plant Pathologist, were given a practical trial. Promising results were obtained from alum-lead acetate and "Sherlan A.G." for preventing mildew development.

A large scale demonstration of the use of benzol for the control of blue mould was established under the supervision of departmental officers at Mareeba, Dimbulah, Bowen, Miriam Vale, and Bundaberg. This work indicated that blue mould could be controlled effectively where normal care was taken, even where the disease was most severe, as was the case in the Mareeba district during the past season.

At Dimbulah an elaborate experiment, designed in co-operation with the Science Branch, was established to ascertain the degree of control afforded by benzol or colloidal copper over both stem-borer and blue mould in seedbeds. No results were obtained owing to the absence of stem-borers during the period of the experiment.

An experiment was also established at Dimbulah, Koumala, Miriam Vale, and Gayndah to investigate a trouble known locally as "yellow patch," which is responsible for uneven and unsatisfactory seedling growth. The results obtained at some centres suggest that the trouble is of a physiological nature. Glasshouse and laboratory studies, as well as soil analyses by the Agricultural Chemist, were made in association with this work. The problem will be further investigated during the coming season.

SOIL RENOVATION INVESTIGATIONS

It is well known in Queensland that the most satisfactory tobacco crops are produced on virgin land, and that on our light soil types the quality and yield of tobacco decline rapidly after a few seasons of cropping. Hence, one of the more important problems associated with the industry is that of renovating old tobacco land satisfactorily. During the season trials were established in the Mareeba, Dimbulah, Bowen, Mackay, Gayndah, and Glenarbon districts to try out various crops, including cereals, cowpeas, crotalarias, velvet beans, weeds, peanuts, and soybean as rotations with tobacco. Green manurial experiments, where various crops were established on a latin square plan by Mr. W. Cartmill during 1935-36 at Dimbulah and Bowen, were also cropped with tobacco during the past season in continuation of this work.

NUTRITIONAL INVESTIGATIONS.

Field trials to ascertain the effect of certain low sulphur mixed fertilizers, and also the addition of superphosphate to the standard fertilizer mixtures, were established at Mareeba, Dimbulah, Bowen, Glenarbon, Gayndah, and in the Mackay district. A complex experiment to investigate the optima quantities of the three main constituents of tobacco fertilizers was established at Mareeba, Dimbulah, Woodstock, Miriam Vale, and Gayndah. A somewhat similar experiment, designed by Mr. Cartmill, to investigate the most desirable potash content for tobacco fertilizers, was also established in the main northern districts.

CULTURAL INVESTIGATIONS.

A cultivation field trial designed to compare the usual Queensland methods of cultivation with a deep cultivation method adopted in some sections of the United States of America, as well as two methods of applying fertilizers, was established at Dimbulah, Mareeba, Bowen, Koumala, and Gayndah. At Dimbulah a field experiment involving various methods of topping, which was established in that district last season, was repeated this year.

TOBACCO VARIETIES.

Randomised block field experiments to investigate the behaviour of nine tobacco varieties were established at Dimbulah, Sarina, Miriam Vale, and Gayndah.

OTHER INVESTIGATIONS.

In co-operation with the Science Branch an experiment was established in evaluate precisely the benefit of certain methods for the control of stem-borer on two farms in the Dimbulah district. Although this pest has been of major importance in the Cairns hinterland during the previous two seasons it failed to appear to a significant extent at Dimbulah during the 1936-37 season, and consequently this work had to be abandoned.

The location of investigations in the various districts is summarised in the following table:—

Investigations.	DISTRICTS.										
	Mareeba.	Dimbulah.	Bowen.	Woodstock.	Koumala.	Sarina.	Balberra.	Miriam Vale,	Texas—Yelarbon.	Gayndah.	Total.
SEEDBED.											
Pest and disease control	..	1	..	..	..	..	..	..	..	..	1
Blue mould control and preservation of seedbed covers	..	..	..	..	..	..	..	2	..	..	2
Preservation of seedbed covers ..	..	..	..	..	..	..	..	..	..	5	5
" Yellow Patch " disease	..	1	..	..	1	..	..	1	..	1	4
FIELD.											
Two year rotation	1	1	1	..	1	1	1	..	..	1	7
Three year rotation	1	..	..	..	..	..	..	..	..	..	1
Soil renovation (legumes)	1	1	..	..	..	..	..	..	..	..	2
Cowpea-Wheat rotation	..	..	..	..	..	..	..	..	1	..	1
Winter cereal rotation	1	..	..	..	..	..	..	..	..	..	1
Green manurial (1935-37)	..	2	1	..	..	..	..	..	..	..	3
Types of fertilizers	1	1	1	..	..	1	..	1	1	2	8
Standard fertilizer plus superphosphate	1	1	4	..	..	1	1	2	1	..	11
Potash and nitrogen	1	1	..	1	1	..	..	2	..	..	6
Fertilizer formula	1	2	..	1	..	..	..	2	..	2	8
Cultivation	1	1	1	..	1	..	..	..	..	1	5
" Topping " methods	..	1	..	..	..	..	..	..	..	..	1
Varieties	..	1	..	..	..	1	..	1	..	2	5
Stem-borer control	..	2	..	..	..	..	..	..	..	..	2

ACKNOWLEDGMENT.

The co-operation of Dalgety and Co. and the Brisbane Tobacco Grading and Bulking Pty., Ltd., in grading experimental leaf which could not be handled on farms, and also of the buyers of the British Australasian Tobacco Co. Pty., Ltd., in valuing leaf from experimental plots, was of considerable assistance, and is hereby acknowledged.

REPORT OF THE AGRICULTURAL RESEARCH OFFICER.

WHEAT.

Generally, unfavourable conditions prevailed throughout the chief wheat-growing districts of the State, with the result that only about half a grain crop was harvested.

The opportunities for the proper preparation of the areas to be cropped were, if anything, more restricted than in the previous season; germination on the whole was very much delayed, and, excepting in a few isolated centres, little rain of a beneficial nature fell throughout the growing period.

Damage by rust was practically nil, and the bulk of the grain garnered was of excellent quality, excellent weather having prevailed at harvest time.

Departmental activities in connection with this crop, as in the previous season, were confined to six centres—viz., Brigalow, Dalby, Kincora, Nobby, Rose Hill, and Roma. At Brigalow the plot was located about 4 miles north of the line on soil of a medium heavy type. The area set apart for the plot had been well prepared, and was in excellent condition when sown in the latter part of June.

Notwithstanding a late germination and that comparatively little rain fell between planting and harvesting, most of the wheats under observation produced fairly good yields of excellent quality grain. The plot in the Dalby area was the first planted, being sown on the 25th May. It was situated about a mile north of Yamala Siding, on the Western line, in open plain country, where the soil is of a heavy nature. As the land had only just been brought into cultivation, the mechanical condition of the soil was not just as desired, which fact, combined with destruction of plants by magpies, rendered the returns of comparatively little value. This plot was harvested in the third week of November, the grain in most instances being rather pinched. At Kincora, 13 miles south-west from Pittsworth, on medium heavy loam, a proportion of the season's wheat-breeding operations was carried out. The locality was selected originally for this purpose because of the frequency and virulence of the rust visitations, the reliability of its rainfall, and the good farming practices of the owner.

Fortunately for the growers, the conditions were not the best for rust propagation, although a visitation was experienced of a sufficiently virulent type to affect severely the least resistant among the standard varieties grown as controls, as well as the more susceptible individuals in the breeding section—thereby greatly assisting in the work of eliminating undesirable types.

At Nobby operations were restricted to the testing of a number of barleys, oats, and wheats. The plots were located about a mile and a-half from the Nobby railway station on a medium heavy red loam. Unfortunately, very adverse conditions were experienced here, with the result that the returns obtained were of little, if any, value for comparative purposes. The plots were sown on the 20th June, and harvested on the 18th November, 1936.

At Rose Hill the soil is medium heavy black loam. If anything, the conditions at this centre were worse than elsewhere; nevertheless every variety of wheat sown produced grain, which is a tribute to the manner in which the ground had been prepared by the farmer on whose property the plot was situated. This plot was sown on the 1st July, and harvested on the 16th November, 1936.

The Roma State Farm Reservation area was sown on the 25th to the 28th June, on a sandy loam soil. Conditions at planting time were excellent, good rain falling just prior to sowing, and the subsoil was carrying a fairly high percentage of moisture. It was fortunate that this was so, for very little useful rain was experienced between then and harvest, which fact, in conjunction with the delayed germination, was unfavourable for the full development of morphological characters.

The sowings made at Kincora were duplicated at Roma, and while selections were made at Kincora of individual varieties less susceptible to injury from rust, or, in other words, those likely to prove the most suitable under humid conditions, at this centre elimination is controlled more or less by the reverse set of conditions, for, in ordinary seasons, the plants selected for further trial are those which have demonstrated their ability to withstand hard, dry conditions. At this location Mr. R. B. Morwood, Plant Pathologist, carried out two experiments. One consisted of some seed treatment trials which were confined to comparisons of various copper and mercury dust in the control of bunt or ball smut of wheat, and the other was instituted in order to determine the varietal susceptibility to flag smut and bunt of twenty varieties, included among which were some in general cultivation and some promising Roma crossbreds.

In addition to the aforementioned seasonal plantings, a small summer sowing was again made this year on the outskirts of Toowoomba, where a small area of suitable soil with an adequate private supply of good water was available.

The planting, which consisted of twenty-nine rows of crossbreds in the F1 and F2 generation, as well as a small sowing of each of the varieties in general cultivation, was made on 21st December. By the end of February some of the earliest segregations had ripened; at the end of

June there were others still in the field. The outcome of this small sowing has been most interesting, as a visitation of rust occurred under which practically the whole of the controls failed to develop grain, the notable exceptions being Three Seas and Warput, which, in each instance, produced a very pinched sample; whereas half a dozen of the crossbred plants, long season types, produced nice plump grains. These selections have again been sown this season in the plot at Roma.

With reference to the summer sowings, it must be understood that the objective is not to produce wheat suitable for growing at this season of the year, but to speed up the work, for at this period of the year there is a greater possibility of rust being present, besides the probability that it will be more devastating in its effects than during what might be termed the normal growing period of the wheat crop in this State.

Results of all sowings have been recorded officially.

YIELD TRIALS AT KINCORA.

Five randomised replications were sown at Kincora in the second week of June at the rate of approximately ¾ bushel per acre in drills 12 inches apart. Excepting in the case of Kenya C 6041, which gave the highest return for the season under review, and the second highest in the previous season, the results were not confirmatory. Although white grubs influenced yields in a few instances, the chief disturbing factors were seasonal differences. Kenya C 6041 has proved to be practically immune from rust; consequently it has been used as a parent to a considerable extent in crossing operations, but, unfortunately, the grain from it is poor in appearance and mediocre in quality, precluding its being recommended for general cultivation.

BARLEY.

The season proved most unfavourable for the growth of barley in the recognised barley-growing areas on the Downs, and, in consequence, the State's requirements will have to be filled to some extent from outside sources. The following varieties were under observation at Nobby, but results in all instances were disappointing:—

Variety.	Yield Value.	Variety.	Yield Value.
Palmetta Blue	16	Californian Malt	12
R.C. Barley	16	Cape	12
R.C.B. 2908	12	Chevalier	8
Sea of Azov	12	Sentinel	8
Vaughan	12	Messenger	6
Victoria Bethges	12	Spratt's Archer	4
Flynn W. 1783	12	Golden Archer	4

OATS.

The sowings of this cereal were restricted to those made for observation purposes at Kincora, Nobby, and Roma, but with the late germination, in conjunction with the following adverse seasonal conditions, the results cannot be looked upon as giving a true indication as to their behaviour under what might be termed normal conditions.

The following varieties were sown:

Algerian
Argentine
Avena
Belar
Budda
Burts
Calcutta
Corona
Dawn
Douglas Haig Black
Guyra Black
Glen Innes Black 5
Glen Innes Black 9
Identification
Mortgage Lifter
Mulga
New England Sidling Feed
Palestine
Potato
Ruakura
Sunrise
Support

MAIZE.

The conditions throughout the chief maize-growing centres in the Southern Division of the State, this season, again proved unsuitable for grain production. As unfavourable weather has prevailed during the last two seasons, it has been impossible to embark with success upon any new undertaking in connection with this crop. Operations have of necessity been confined to the work already in hand. This included an effort to retain the high standard already reached in connection with the five varieties recommended to the growers in the South by the Department, and, as far as possible, the production of sufficient pedigreed seed of each to meet the existing demand.

POTATOES.

The more recent work carried out in connection with this crop was instituted with the importation of a number of varieties from America some three years ago.

Little progress can be reported, unfavourable conditions for this crop generally having been experienced since the trials began.

Last season, an autumn sowing was made with seed from the previous year which had been held during the interim in cold stores. Unfortunately, exceptionally heavy rains occurred immediately after planting, which consolidated the soil very considerably. The land was later subjected to a partial flooding when the plants were coming into blossom. Both happenings were detrimental to the crop. Although the bulk of the varieties under test did not behave any better or, in some instances, as well as the grower's crop of Brownells which surrounded the plot, there were a few which showed up fairly well, the best of these being Katahdin, Chippewa, and Green Mountain.

As there is an ever-present danger of losing the varieties under conditions as they exist in Queensland, when an opportunity of making suitable arrangements for the work in hand to be carried on in the South presented itself, it was readily availed of; as a result, the seed of those varieties still retained was recently forwarded to a grower at Kooweerup, in Victoria, who is operating on a big scale and has supplied large quantities of seed potatoes to Queensland for a number of years. While on a visit to Holland recently this grower obtained seed of a very desirable type of potato, which is at present being grown in quarantine. Should it compare favourably with the varieties in general cultivation in the South, the department will be supplied with a bag of seed on its release from quarantine.

PEANUTS.

Progress can be reported in connection with the peanut crop. Operations consisted of the further testing of twenty-six selections, made in conjunction with Dr. L. G. Miles, from the strain trials with Virginia Bunch variety in the previous season.

The plot on which the tests were conducted was located at Wooroolin. Five randomised sowings in the shell were made in the third week of November. Unfortunately, the dry conditions resulted in rather a poor germination being obtained, which influenced yields considerably, although not sufficiently to render the season's trials abortive.

THE SOYA BEAN.

The sowings made of the Soya bean were restricted, fortunately, to a small area. Adverse weather conditions caused their failure. The same influences also prevented the work outlined in the annual report for 1935-36 being attempted.

The innumerable uses the seed of this crop is capable of being put to, the reputation it has gained because of its hardiness, adaptability, and value for rotational purposes, have influenced the determination to persevere with it. Unfortunately, ill-success has, so far, more or less attended these efforts, but as it is still considered that the unsuitability of the varieties tried for our conditions may have been in some measure the predisposing causes for past failures, a number of fresh introductions have been made. These will be tested in at least two different localities in the coming season, in the hope that amongst them may be found one or more of much greater promise than any tested hitherto.

R. E. SOUTTER,
Agricultural Research Officer.

REPORT OF THE DIRECTOR OF TROPICAL AGRICULTURE.

The experimental work carried out by the Bureau of Tropical Agriculture in the course of the year covered a very wide range. This work was extended to many localities in the agricultural regions of North Queensland from Townsville to the Atherton Tableland.

Included in the year's programme of experiments were:—

Soil improvement trials with maize.
Pasture improvement, renovation, and rotational grazing trials.
Grass variety trials.
Lucerne, winter cereals, grasses, and legumes trials.
Potatoes with fertilizer experiments.
Soil erosion studies.
Cultivation, green manurial, and general fertilizing trials.
Maize type and maize breeding experiments.
Tobacco breeding and fertilizing experiments.
Peanut selection and varietal trials.
Pumpkin selection.
Cotton and cow cane varietal trials.
Tropical fruit trials, including mango improvement, avocado culture, and research work in tropical pomology.
Trials with tea, coffee, fibre plants, yams, upland rice, and soya bean.
Fat lamb raising trials on the Atherton Tableland.

The main soil type on the experiment farm at South Johnstone is a granite-schist alluvial. The virgin soil is acid (pH 4·6-5·0), and it is usually necessary to lime the soil before sowing or planting. It is deficient in phosphates, and fairly deficient in nitrogen, while the available potash is good. Consequently, in designing fertilizer experiments concentration has been made so far, firstly on phosphates, and secondly on nitrogen experiments. The topography of the farm is mostly flat, and the soil is naturally well drained.

Pending the erection of the new laboratory, attention has been devoted mainly to soil studies in the field.

Soon after the establishment of this station, the indifferent success that was met with in efforts to establish various crops indicated that the problem of increasing the productivity of the soil needed immediate investigation.

Consequently, numerous experimental and trial plots were laid out at the station during the year. It was felt that green manurial crops were of fundamental importance in building up a fertility in this soil, which is inherently deficient in some of the major plant foods and humus.

An area was laid out with four varieties of legumes, replicated according to the Latin square system. The varieties were: Mauritius bean, giant cowpea, Poona cowpea, and black cowpea. All did well. The Mauritius bean and giant cowpea were superior to the others in vegetative growth, forming a dense mat. The Poona cowpea was affected in patches by a fungoid disease, to which, apparently, the other legumes were not susceptible. The black cowpea matured early, and for that reason it must be regarded as an unsuitable legume in a district with a heavy rainfall, such as this, where a legume is required to act as a cover crop during the wet season to prevent erosion and leaching. The legumes were ploughed under; the area was subdivided, and it is now being laid out with plots of white panicum and of maize, the plots incorporating also a fertilizer trial.

Numerous fertilizer trials were conducted, some being observational, and others set out on statistical lines. The information gathered from these enables a propounding of a fertilizer mixture that, for general purposes, can be relied on to give satisfactory results on the station. Some trials are still in progress, and others have been planned.

An early attempt to establish lucerne on a small plot was attended with encouraging results; so much so, that the plot is being extended. Another lucerne trial plot incorporating inoculated seed, has so far given indications that the inoculation has promoted early growth.

Soil fertility problems on the Atherton Tableland have received attention during the year. Numerous pot tests have been conducted as an initial investigation of these matters, the results of which have been, in many cases, illuminating. With the establishment of field trials and investigations in the laboratory, it is hoped to throw further light on these intricate problems.

Samples of soils taken from tobacco experimental plots in different districts have been received at the station periodically throughout the last tobacco season for the purpose of particular analyses.

The coastal beef cattle fattening scheme is arousing considerable interest and enthusiasm among a number of farmers in the Far North, and the programme of experimental work drawn up by the Department has been well received. That section of the work which involves soil and pasture studies will be mainly the province of this institution, and will involve much work on the part of the chemistry section of the bureau.

Following is a summary of some of the more important experiments taken from a detailed report by Mr. W. J. Cartmill, Assistant Research Officer:—

GREEN MANURIAL TRIAL.

Experiments were planned to determine the relative merits in the South Johnstone area of four popular legumes as green manures in this class of soil; and to determine the value of a cover crop in the prevention of leaching of plant foods during the wet season.

All four legumes made good growth, with the exception of portion of the Poona cowpea crops, which developed a disease in the early stages of growth, the affection slowly increasing and ultimately affecting well-grown plants. The presence of a fungus (Fusarium) was proved. None of the other legumes was affected, and the Poona peas that escaped infection made good growth. Local experience indicates that Poona peas are often thus affected. Apparently the legume is unsuited for propagation at South Johnstone.

The black cowpea matured early—within about eight weeks. Nevertheless, it formed a fairly good cover. However, its characteristic of early maturity lessens its value as a green manure in the district, where the aim is to keep arable land under a cover for a period of three or four months during the wet season.

The giant cowpea and the Mauritius bean both formed a thick cover. By observation there seems little to choose between these two, although the habit of the giant cowpea is probably the better. The habit of the Mauritius bean of climbing over other plants is not a desirable one. The giant cowpea spreads well without climbing.

The future treatment of the block entails a division of the area and the sowing of maize on one division and a winter cereal on another, with the object of determining if any significant differences due to fertility exist.

The appearance of the soil on this block now offers a sharp contrast to the general appearance of the soil on the farm, and an improvement in fertility and physical condition is confidently expected.

Fertilizer Trial.

To arrive at an estimate of the amount of phosphate applied as superphosphate required to produce optimum growth in this soil was the object of this experiment.

Treatments of 3 cwt. and 5 cwt. per acre of superphosphate induced a superior growth early in the experiment. This superiority was maintained throughout, and at maturity a splendid even stand was manifest on plots that had been treated with the quantities of superphosphate above mentioned. The average height of the stand of these plots was approximately 4 feet, there being no apparent difference in growth as a consequence of the two different treatments. The application of 1 cwt. of superphosphate produced a stand that reached an average height of about 3 feet 3 inches on all plots so treated. The plots that were not treated with phosphate were obviously inferior, the stand of the plants reaching a height of only about 2 feet.

Weights of the air-dried crop were taken. The statistical analysis of the results shows a significant increase in yield of the phosphate treatments over the non-phosphate treatments; while there was no significant difference in yield as a result of the heavier application of superphosphate. These results are not conclusive, however, and accordingly another experiment along similar lines has been planned.

Fertilizer Trial with Green Manures.

This experiment was an observational trial, to determine how legumes for green manurial purposes are likely to fare in the cooler months of the year; and to observe the effects of various fertilizers on the legumes, having in mind that the information so obtained will serve as a basis for the planning of a statistical layout at some future date.

There was a good germination from the Mauritius bean. The seed of the giant cowpea had become infested with weevils, and, although the seed was sown heavily, the germination was very poor and the plants consequently were scattered in the rows.

The growth for a few weeks was steady in all cases. Later, it was evident that the blood-bone mixture was inducing a superior growth, the superiority becoming more and more pronounced as growth advanced. At maturity, the cover obtained in the rows that had received this treatment was good, and much better to that obtained from any other treatment. No difference could be discerned between the growths in the rows treated with bone and in those treated with blood. In both the growth was fairly good.

Only a poor growth was obtained in the check rows, and little better in those treated with superphosphate.

The conclusions drawn from this experiment are that a satisfactory cover of a green manurial crop can probably be obtained locally in the autumn and winter months, with the aid of a fertilizer supplying nitrogen and phosphate.

Lucerne and Fertilizer Trial.

The object of this experiment was to establish a crop of lucerne, if possible, and to observe the effects of liming and of the use of certain fertilizer mixtures. The soil type on this block is a reddish lateritic soil.

The seed was sown during wet weather, and a good germination was obtained. Subsequently, the weather was unfavourable for growth. As conditions improved the crop progressed satisfactorily. It is too early yet to gauge differences accountable to the fertilizer treatments.

Lucerne Trial.

This experiment was designed to observe the advantages, if any, of liming, the application of certain fertilizer mixtures, and of seed inoculation. Also, to guide an opinion as to whether the cooler months of the year are favourable towards the growth of lucerne in the North.

Germination was observed late in May, after a period of favourable weather conditions. The crop is now growing satisfactorily. It is yet too early to observe differences of any significance, although it appears that the inoculation of seed has been advantageous in promoting early growth.

Fertilizer Trial with Maize.

The objects of this experiment are summarised:—

1. To add to the information so far obtained on the effect of seasons on the growth of maize in the northern coastal areas.

2. To form a judgment on the fertility of virgin schist soils.

3. To observe the benefits, if any, of applying certain fertilized mixtures—in furtherance of the information obtained from earlier experiments that superphosphate enhances the growth of maize in this class of soil.

Growth Observations.—A good strike was obtained. At this stage, no definite conclusions can be drawn as to the relative merits of the different fertilizer treatments. The plants are making steady growth. If anything, the plants in the plots treated with sulphate of ammonia and superphosphate are superior, while those in the plots treated with superphosphate are next in line.

POT EXPERIMENTS.

It had been reported that farmers in parts of the Atherton Tableland had experienced difficulty in raising silage crops, and that in certain paddocks it was noticed that small infertile patches existed. Taking a paddock as a whole, crops such as maize and sorghum did not thrive.

It was felt that the main trouble was due to the infertility of the soil, which was indicated in the chemical analysis of a sample. A sample from the bad patches showed a higher percentage of clay than that of the normal soil sample, and a poorer physical condition of the soil was indicated, as well as a poor fertility.

A quantity of soil from the "normal" area and from the "bad patches" was taken for pot culture experiments. It was thought that this work would throw some light on the problem if it were one of fertility, and give an indication of the requirements of the soil, which later could be determined with greater precision by a field trial; and that it would perhaps indicate any special treatment required for the "bad patches."

The type of soil was red volcanic. The pots —9 inches in diameter and 14 inches in depth— used in this experiment were of glazed porcelain. The depth of soil in each pot was thus 9 inches over 5 inches of gravelly sand. The soil was added to each pot in two operations; firstly, by the addition of soil to a depth of 5 inches; and, secondly, by the addition of a further 4 inches of soil in which the required fertilizer had been well mixed.

The lime was calculated on a broadcast basis; the fertilizer on a drill basis. The quantity of fertilizer added was liberal for a drill basis, but was by no means excessive.

Considering the trials with the "normal" soils, a very unsatisfactory growth was obtained from the untreated soil. Superphosphate has stimulated the growth considerably, as evidenced by the growth in pots 3 and 4. The mixing of leaf mulch with the soil has been of benefit, while lime alone has shown only a slight improvement over the untreated soil. The best growth of this series was obtained in the pot, the treatment of which was an application of a complete fertilizer. In this plot the growth was as good as could be expected from any fertile soil. It would appear, therefore, that the problem is mainly one of fertility on these soils; although it is thought that an improvement in physical condition would be beneficial to crop growth, and that it could best be brought about by the ploughing in of green manurial crops. By liming and broadcasting a light dressing of a complete fertilizer, a good cover of a leguminous crop should be obtainable. Having turned this under and again broadcasting a light dressing of a complete manure the soil should be brought to a state of fertility that would enable silage crops to be grown profitably, and probably several such crops could be obtained before the necessity for again treating the soil arises.

As for the abnormal or "bad" patches in the paddock the evidence of the trials points to the fact that the soil is not only infertile, but also is in a bad physical state. Practically no growth was obtained from the untreated soil. Lime, leaf mulch, and fertilizers each causes an improvement to be shown. However, the outstanding results were obtained from combinations of lime with a complete fertilizer and from leaf mulch with a complete fertilizer. In each pot so treated the growth was very good. It is noteworthy that a complete fertilizer alone produced only a fair growth. To remedy this trouble, the same general treatment as suggested for the major portion of the paddock should suffice.

Another pot experiment with soil taken from a farm at Peeramon was designed to obtain information as to the probable manurial requirement of the soil.

The growth of maize crops on this soil had never been very satisfactory, and was reported to be gradually falling off in successive crops.

The type of soil used was red volcanic. The same type of pots as were used in the former experiments were filled, first to a depth of 5 inches with river sand-gravel, and then to the top with 9 inches of soil.

The quantity of lime used was calculated on a broadcast basis, and the quantity of fertilzer on a drill basis.

The response to phosphates and to complete fertilizers was noticeable early in the experiment. Sulphate of ammonia mixed with other fertilizers gave better results than blood mixed with the same fertilizers. However, the organic fertilizers seemed to enhance the growth more markedly later in the trial.

Ultimately, the best results were given by lime plus a complete fertilizer. Whether the complete fertilizer was mainly organic (blood, bone, and potash) or mainly inorganic (sulphate of ammonia, superphosphate, and potash) made little difference, although if anything the inorganic was superior.

Superphosphate and bone each improved considerably the growth in comparison with the growth obtained in the check pots. Better growth was brought about by the leaf mulch, although the plants were inclined to be spindly. Nevertheless, the result suggests strongly that an improvement would be gained by green manuring.

It is manifest that a general building up of the fertility of these soils is needed. Using the information obtained from the pot trials as a basis, a plan of a field experiment is to be drawn up. In fact, it is intended to lay out two or three trials in the Peeramon district during next summer if arrangements with suitable farmers can be made.

TEA AND COFFEE.

Tea plants, which were raised from seed collected at Bartle Frere, are now well established in a permanent site. These were transferred to the field early in March of this year, and are now making good headway.

A further supply of seed was received from the same source and germinated very well. Seedlings, from each of the trees growing at Bartle Frere, are now being raised in tubes.

Coffee seedlings were planted out early in March last, and are now fairly well established in the field.

SWEET POTATOES.

Sweet potato tubers of each of twelve varieties were received from St. Lucia and all have done well. Sufficient planting material is now available to test these varieties out on a more extensive scale when weather conditions are favourable.

FIBRES.

A number of different fibre plants has been established in small trial plots, including juite, which has given fairly good results. Under very adverse weather conditions, a height of 3 feet 6 inches was reached when sown broadcast.

COW CANE.

A number of sets of Improved 90 Stalk, China x Java, and Florida Oshima varieties was received from the Acclimatisation Society, Lawnton. These made excellent growth and sufficient material is now available to conduct trials in various districts.

GRASS PROPAGATION PLOTS.

The grass propagation plots have been extended to provide sufficient material for more extensive trials. All pots are making from fair to good progress. The following varieties were included in these trials:—

Digitaria eriantha.
Digitaria Pole-Evansii (2 strains).
Digitaria valida.
Digitaria Pentzii.
Panicum maximum (fine stemmed).
Panicum coloratum.
Urochloa pullulans.
Urochloa sp.
Urochloa tricophus.
Setaria aurea.
Andropogon distachys.
Eragrostis curvula.

CHAS. J. McKEON, Director.

REPORT OF THE SENIOR INSTRUCTOR IN PIG RAISING.

Mr. E. J. Shelton, Senior Instructor in Pig Raising, reports:—

The number of pigs killed for human consumption in Australia during the year 1935-36 totalled 1,983,745, of which Queensland contributed 552,196, or approximately one-fourth of the total. The quantities of bacon, ham, and pork exported were:—

—	From Queensland.	From Australia.
	Lb.	Lb.
Bacon and ham	1,200,724	1,701,575
Frozen pork	11,680,256	23,577,743

The quantities of frozen pork exported from Australia to the United Kingdom during the last four years are given for purposes of comparison:—

	lb.
1932-33	6,250,047
1933-34	8,272,957
1934-35	15,155,459
1935-36	23,065,971

During the year covered by this report this State's share in the Australian export quota was much reduced as a result of adverse seasonal conditions, but the quality standard has been maintained.

The figures indicate satisfactory progress, however, and together with those contained in the tables of statistics attached to the general report of the Department, are evidence of the importance of the pig industry to the State.

Seasonal.—For the greater part of the year seasonal conditions were decidedly unfavourable, especially in Southern Queensland.

The introduction of the paddock system of feeding and housing in place of the old small sty practice has proved advantageous from every point of view.

Health of Stock.—Under conditions on Queensland farms, pigs are exceptionally healthy, thrifty, and profitable. A remarkable freedom from disease was an experience of the year.

Details of condemnations at bacon factories are contained in the report of the Chief Inspector of Stock.

In following up the reports of slaughtering inspectors, there has been developed within the Pig Section a system of card indexing or recording of all condemnations, which is of co-ordination value in the campaign against disease by the staffs of the Animal Health Station and the Dairy Branch. It is now possible to locate the owners of diseased stock and to take any "follow up" action considered necessary to provide for inspection and tubercular testing of suspected dairy stock. This, together with the administration of the provisions of the Pig Industry Act of 1933, has enabled the inspectors to take effective action when necessary.

Importation of Stud Pigs.—Arrangements were completed for the importation of a selection of Berkshire and Middle White pigs from leading studs in Great Britain. These animals, on release from quarantine, will be sent to the Queensland Agricultural High School and College, Lawes, as foundation stock, the progeny of which will be made available to approved breeders. Through an extension of this scheme, the ultimate objective of producing the most desirable class of carcase for the domestic and overseas trade will, it is believed, be attained. The scheme was welcomed by farmers, and at the close of the year a number of orders had been registered for both the male and female progeny of the imported animals.

Through the various organisations interested in the pig industry much has been done to stimulate enthusiasm and active co-operation among producing and marketing interests.

Quality of Products.—It is pleasing to be able to report a marked improvement in the quality of hams, bacon, and other pig products produced in this State.

Breeds of Pigs.—The principal breeds of pigs kept in Queensland are the Berkshire, the Tamworth, the Large White, the Middle White, and, more recently, Wessex Saddleback.

Pig Fodder Trials.—The Agricultural Branch of the Department conducted pig fodder trials on farms in different parts of the State during the year and obtained satisfactory results. Crops used during the trials included dwarf Essex rape, Swede turnips, yellow globe mangels, sugar beet, silver beet, arrowroot, and Belgian field carrots.

Schools of Instruction and Pig Clubs.—Facilities offered for extension of instructional activities included the annual school of instruction for dairy and pig farmers at the Queensland Agricultural College. A number of pig clubs have functioned progressively in State and rural schools.

There is an increasing demand for departmental publications on all phases of the pig industry. Similarly, there has been a continuous call on the correspondence course of instruction to pigraisers.

Effective work has been done towards the improvement of the conditions under which pigs are kept on farms and are marketed.

The fact that the quality of Queensland frozen pork and pork products has not been questioned indicates that the quality factor has improved, as well as the conditions under which animals are kept.

Pig Feeding Tests.—In continuation of feeding tests initiated at the Queensland Agricultural College and extended to the Animal Health Station, a series of maize feeding trials was commenced on the Atherton Tableland, in co-operation with the Atherton Maize Board and the Bacon Association.

The sale of meat and protein meal and commercial pig meals has increased beyond expectations, and have been a considerable factor in the maintenance of production.

General Instructional Work.—Numerous visits to individual farms, field day demonstrations, lantern lectures, and the preparation of articles for publication in the *Queensland Agricultural Journal* and the *Weekly News Bulletin* were included in the year's instructional work.

STAFF REPORT.

Mr. L. A. Downey, Instructor in Pig Raising, reports:—

The instructional campaign has been carried out as usual during the year, but the response from pigraisers has not been great on account of the adverse seasonal conditions. Shortage of food supplies has, however, led farmers to consider the subject of pig feeding more seriously, and there has been a flood of enquiries on matters pertaining to nutrition.

Feeding problems of the year have shown the value of sweet potatoes and arrowroot as pig-feeding crops on coastal areas. The capacity of these crops to produce a fair yield of forage, even under harsh weather conditions which would mean failure of a maize crop for grain, shows their importance to pigraisers. Another interesting observation has been made on molasses, which has been used extensively in pig feeding this year, and observations on farms have revealed that this food may be fed with apparently good results in quantities much larger than are usually considered safe. While the information gained does not allow the drawing of definite conclusions, it does stress the need for experimental feeding with this food under controlled conditions.

The drive for better pig accommodation has been in force again during the year, and it can be claimed that the propaganda used in field days, lectures, and farm visits is bearing fruit in the form of improved piggeries, healthier pigs, and greater returns from the available foods. The grazing system of pigraising, which has for long been considered by many pigraisers to be impracticable, is now becoming more popular, and those farmers who have changed from the sty to the paddock system are the strongest advocates for the grazing system.

That complex problem of advising farmers how to breed to produce the type of pig required by their particular market has been handled along the lines of the policy formulated some years ago, and although much confusion still exists among breeders, the bacon factory and meatworks managers agree generally that there is a continual improvement in the average quality of the pigs received for treatment at their works.

Both breeding and feeding are important influences in determining the quality of the resultant carcase.

Climatic conditions caused a shortage of food, which, in turn, caused a large number of pigs being marketed in an unfinished condition; this has been a contrast to the previous few years, when the greatest fault found with pigs, on the whole, was over-fatness.

An advance has been made in the method of conveying to the producer the deficiencies in carcase quality of his pigs by means of the carcase judging systems evolved by English authorities and now in use in all Empire countries. This new system, which aims at valuing the carcase according to trade requirements, is based as far as practicable on measurements, and eliminates the factor of opinion of the judge. This work has been given a trial, and the Royal National Association will adopt the new system in judging the class for export baconer carcases at its 1937 Show.

Litter recording was not carried out so extensively as last year because of the prevailing drought conditions, but among those recorded were two especially good performances, namely, those of a litter of 14 Large Whites which made a total weight of 583 lb.; and a litter of 12 Wessex Saddleback pigs, the total weight of which at eight weeks old was 624½ lb.—the highest litter weight at eight weeks so far recorded by the Department.

The correspondence course of instruction in pigraising continues to serve its useful purpose in providing instruction over a period of months to many farmers and others whom it is impossible to meet in person. Students of the course are enthusiastic about its value to them, and there is ample evidence of the useful results of the instruction given to pigraisers by way of this course.

During the year under review 27 students completed their course of study, making a total of 194 who have completed the whole of the course. One hundred and seven students are at present enrolled.

Printed literature in pamphlet and bulletin form has been revised and reprinted, and the demand for information in this form continues to grow.

A second edition of *Pig Raising Lessons for Junior Farmers* has been published, and there has been a regular enquiry for this brochure from members of pig project clubs at the State schools.

A course of lectures has been given at the St. Lucia Training Farm.

Close contact has been maintained with stud pig breeders, and in this way an influence has been exerted on the class of breeding stock being distributed to pigraisers.

Frequent visits to saleyards and bacon factories have been made in the course of the year.

REPORT OF THE POULTRY EXPERT.

Production during the past twelve months in the poultry industry has shown a marked decline, and although the number of dozens of eggs handled by the Queensland Egg Board, compared with those received by them for the previous twelve months, does not indicate that the production of eggs has materially decreased, the fact must not be lost sight of that all eggs marketed in Queensland do not go through the Egg Board channels. Consequently, Egg Board figures do not indicate the true position.

A large percentage of the total production throughout Queensland comes from relatively small flocks. From contact with small flock-owners, it is known that many have disposed of all their poultry, while others have retained only sufficient numbers to produce for household requirements. This, in the aggregate, would assume large proportions.

Production from what may be termed commercial flocks appears to be well maintained when measured by the receipt of eggs by the Queensland Egg Board, which were, for 1936, 5,390,991 dozens, and for 1937, the number received was 4,440,763 dozens.

Export.—In previous years Brisbane has been the only port through which overseas export trade of eggs has been conducted. For the period under review, overseas export was commenced from Rockhampton, and eggs were shipped from Cairns to New Guinea.

The Egg Board exported 1,888,650 dozens during the past season, which is approximately 12¼ per cent. below the export of the previous year. During the early part of the export season overseas markets opened up reasonably well and the trade showed every indication of being profitable; but, towards the end of the season, egg prices fell to a very low level, resulting in heavy losses.

Usually, when the market for eggs collapses in Great Britain, there is a tendency on the part of overseas buyers of eggs to complain as to their quality. It is very pleasing to be able to report that there was no such complaint with respect to the quality of the Queensland pack.

Fodder Prices.—As pointed out in my last annual report, prices of fodder had materially increased over those ruling in previous years. The increase has been maintained, as indicated in the following table showing the average cost of the prices of fodders used by poultry raisers:—

AVERAGE COST OF FODDER—BRISBANE.

Period.	Maize. Per bushel.		Wheat. Per bushel.		Pollard. Per 140 lb.		Bran. Per 100 lb.	
	s.	*d.*	*s.*	*d.*	*s.*	*d.*	*s.*	*d.*
1st half 1935 ..	3	9½	3	8½	8	11½	6	2½
2nd half 1935 ..	4	10½	4	6½	9	8¼	6	11
1st half 1936 ..	5	2½	4	11	10	8	7	4
2nd half 1936 ..	5	10	5	1½	11	3½	8	0¼
1st half 1937 ..	6	5	6	7	11	8½	7	10

The increase in fodder values, as will be seen, is most marked, and will very definitely curtail production. It has not been possible for the poultry raiser to pass on his increased costs. The skilled breeder has been forced to cull extensively, and the less skilled man to cease keeping fowls.

With the object of ascertaining if the usual practice adopted by poultry raisers for the production of eggs could be economically departed from, and to ascertain if grain sorghums under local conditions would prove a satisfactory egg-producing food, a series of experiments was planned, and is now being conducted at the Animal Health Station. There is no doubt as to the suitability of grain sorghum as a poultry fodder when fed in conjunction with other foods. Where this grain is available, particularly in Central Queensland, poultry raisers have made free use of it with reasonably satisfactory results. It is hoped that the test will convince poultry raisers as a body that the grain sorghum is a satisfactory poultry food and induce farmers who are in a position to do so to produce it. The rations that are used in these experiments are:—

Ration No. 1.—54 per cent. maize meal, 18 per cent. bran, 9 per cent. pollard, 9 per cent. lucerne meal, 7 per cent. meat and bone meal, 3 per cent. linseed meal. To each 100 lb. of mash, 1 lb. of salt is added.

Ration No. 2.—85 per cent. soaked wheat, 7½ per cent. meat and bone meal, 7½ per cent. lucerne meal, 1 per cent. salt.

Ration No. 3.—60 per cent. ground sorghum, 17 per cent. maize meal, 10 per cent. lucerne meal, 8 per cent. meat and bone meal, 4 per cent. dried buttermilk powder, 1 per cent. salt.

Two groups of 45 birds are being fed on each of the abovementioned rations, and to date No. 1 ration, which has in past years given an average production of over 200 eggs per bird, is only showing an excess over the grain sorghum ration of two eggs, with No. 2 ration following a close third.

Live Poultry Markets.—During the past year, it is estimated that 624,000 fowls have been sold in the markets within the metropolitan area. In addition to these, large numbers of fowls are sold direct to poulterers by producers.

The general health of the birds marketed has been satisfactory, only 192 birds being condemned under the Diseases in Poultry Act.

Values during the latter part of 1936 and early 1937 were not very high, but at the termination of the period under review values had improved materially, and there is every indication that they will hold for some time.

Replacement of Flocks.—Indications for the coming chick season are suggestive that fewer chickens will be hatched than for the past season. Fortunately, however, breeders are giving greater attention to the class of breeding bird used than formerly, many testing their stock birds for pullorum disease. This will result in a more economic rearing of a better class of bird for production and breeding purposes in the future.

The sexing of chickens, a practice introduced within recent years, is now being carried on solely by Queenslanders. Formerly it was the practice to obtain experts from Japan for this purpose.

Laying Tests.—During the period under review the egglaying competition conducted at Toowoomba was discontinued. There are now only seven tests conducted in the State. These are situated at Townsville, Bundaberg, Childers, Maryborough (2), Brisbane and Wynnum. These tests all come under the general supervision of this Department.

Instruction.—Officers of the Poultry Section have visited the most important poultry-raising districts in Queensland in the course of the year for the purpose of instruction by farm visitations, lectures, and field days. Every effort has been made to induce farmers to bring their flocks up to the highest stage of efficiency by judicious culling, rational feeding and breeding methods.

At the termination of the class of instruction for young judges, an examination was held. Seventeen of the thirty students sat for the examination, six gaining a certificate of competency. The club on whose behalf this class was conducted has requested that a refresher course be given for unsuccessful students and for which provision has been made.

P. RUMBALL, Poultry Expert.

REPORT OF THE DIRECTOR OF COTTON CULTURE.

The cotton-growing season under review has been a most unsatisfactory one, due chiefly to very late planting, brought about by the lack of early planting rains. Later in the season a rather severe incidence of insect attack did much to reduce the ultimate yield.

The number of growers and the acreage planted has not altered appreciably, but the development of the spinning and manufacturing industries has been most marked, and their lint requirements are increasing yearly.

For the coming year—1937-38—the Commonwealth bounty payment has been reduced by ½d. per lb. of lint; and, in addition, a fumigation charge amounting to .25 pence per lb. of lint, which was used by the Tariff Board in calculating the assistance to be granted to cotton-growers, and which was added to the import parity price, has been removed by the Director-General of Health.

In April of this year the cost of picking was raised by the Industrial Court of Queensland, pursuant to the rise in the basic wage, by approximately 10d. per 100 lb. of seed cotton.

At a meeting of the Cotton Suppliers' Committee held in Sydney in June, the quantity of raw cotton on which the Commonwealth will pay bounty for the coming season was fixed by the Committee at 25,000 bales of 500 lb. lint.

Cotton Production Relief Scheme.

The Department of Labour and Industry continued the operations of the Cotton Production Relief Fund in the 1936-37 season, and advances totalling £14,317 were made to 81 farmers and 369 share-farmers. Inspections and recommendations were again carried out by officers of the Cotton Section. This scheme has now been in operation since the 1932-33 cotton season.

The Government has approved of its continuance in the 1937-38 season, and £15,000 has been allocated for the assistance of necessitous cotton-growers.

Seasonal Conditions.

Unsatisfactory conditions prevailed throughout the cotton districts at planting time, with the exception of the South Burnett, where good germination was obtained during October and November. The Central district received patchy rains during November, but the Upper and Central Burnett remained dry until December. The result was that many poor strikes were obtained and a considerable acreage was of necessity replanted—in some cases several times; consequently, the greater portion of the crop was planted very late. Useful general rains were recorded in December, but during January most of the cotton areas were suffering severely from heat and drought. These conditions continued into early February, when good rains were recorded in most of the cotton areas. From March onwards dry conditions prevailed which made harvesting conditions excellent, with the result that grades are considerably higher this year.

The following table of rainfall recordings illustrates the nature of the season experienced:—

MONTHLY RAINFALL.

1st July, 1936, to 30th June, 1937.

(In 100ths of an inch.)

Station.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	Total.
Boonah	1·55	0·15	1·49	1·23	1·58	4·41	1·53	1·51	9·33	0·46	0·47	0·70	24·41
Kalbar	1·59	0·16	1·57	0·58	1·40	5·40	1·59	1·45	3·22	0·16	0·90	0·68	18·70
Laidley	1·43	..	1·30	0·16	1·48	4·07	2·57	2·66	3·30	1·44	0·44	0·65	16·50
Gatton	1·34	0·02	1·58	0·10	2·97	4·19	0·73	1·99	1·96	0·35	0·32	0·78	16·33
Lowood	1·56	0·08	0·94	0·16	1·79	1·88	1·63	1·43	3·57	0·48	0·29	1·10	14·91
Murgon	0·63	0·07	0·38	0·99	5·09	1·38	1·61	2·79	6·35	0·33	0·27	1·77	21·66
Gayndah	0·39	..	0·55	1·62	0·99	2·96	1·89	1·77	5·36	0·47	0·06	0·72	16·78
Eidsvold	0·58	0·07	0·60	0·49	0·95	2·61	2·12	1·96	5·59	0·53	0·05	0·22	15·77
Camboon	1·12	0·13	..	0·79	3·40	3·86	1·84	4·54	2·72	1·05	0·29	0·87	20·61
Many Peaks	0·58	..	0·09	0·46	1·47	2·50	2·64	4·80	10·59	2·09	0·52	0·91	26·65
Mount Larcom	0·76	0·21	0·86	0·60	1·56	1·92	3·09	13·82	9·58	1·37	0·36	1·15	35·28
Rockhampton	0·40	0·03	0·13	0·86	2·46	2·64	3·85	10·63	7·37	1·58	0·09	1·60	31·64
Westwood	0·55	..	0·26	1·25	2·88	5·31	3·60	3·23	6·84	0·67	..	1·35	25·94
Wowan	0·66	..	0·70	0·71	1·83	8·27	1·83	3·79	6·17	0·71	0·30	1·69	26·66
Biloela	0·84	0·08	0·16	1·39	1·50	4·84	4·54	4·31	3·99	1·16	0·22	0·62	23·65
Kingaroy	0·95	0·13	0·57	0·68	1·90	2·74	2·28	1·26	7·88	0·31	0·83	1·02	20·45
Wondai	0·62	..	0·37	1·31	4·46	2·16	5·81	3·05	7·81	0·43	..	0·49	26·51
Monto*	0·33	..	0·56	0·30	2·20	4·42	0·86	5·47	5·71	0·36	0·62	1·29	..

* Incomplete.

Standard of Cultivation.

The previous standard of cultivation was hardly maintained during the past season, and was probably due to the fact that so many indifferent strikes were obtained owing to the lack of suitable planting rains; also, in some areas where germination was good, hot drying winds prevailed which considerably reduced the stand.

Dry conditions prevailed over most of the cotton districts when thinning should have been carried out, and this important operation was in many cases neglected. This was unfortunate, as experiments have clearly demonstrated the value of giving good spacing—especially in seasons of rainfall deficiency—to allow of a normal development of the plant without excessive shedding.

When relief rains fell in February, difficulty was experienced in controlling weed growth on those cultivations that had previously been neglected, whereas in most cases where the land had been well worked weed growth was effectively controlled.

The early preparation of seed-beds appears to have been given more attention. This is most important in order to obtain a firm seed-bed and to conserve all the moisture possible.

CROP YIELDS.

To the 30th June the total receivals of seed cotton amounted to 9,370,999 lb., producing on the theoretical lint percentage 3,257,047 lbs. of cotton lint. This is a marked reduction compared with the last two season, as only a slight reduction in acreage occurred. The total yield will probably not exceed 8,500 bales of lint of 500 lb. net, as compared with 13,500 last year.

There is no question of the suitability of the newer varieties yielding medium-staple cotton of a harder character. Not only were profitable yields obtained, but the quality of the lint was of a higher standard.

QUALITY OF THE CROP.

The harvesting conditions have been considerably dryer and more suitable this season than last, with the result that the quality of the cotton has been higher than for several years. The resultant lint grades show marked improvement, especially in regard to strength, there being less soft, wasty cotton. The results of investigations obtained from the newer cultivations where thinning was practised indicated not only a greater yield per acre, but also a decided improvement in grades as compared with fields where thinning had been neglected on the older cultivations.

GRADING.

The grading of the seed cotton at the ginneries and the classification of the raw cotton was carried out, as in previous years, by the Government graders. The cotton from many of the areas showed the effect of the abnormally dry season, but, due to the absence of spot, the percentage of yellow spotted grades are appreciably less, and the lightly spotted grades are much higher than usual. This class of cotton is favoured by the Australian manufacturer.

Up to the 25th June the cotton ginned had been graded into the following classifications:—

	Bales of 500 lb. net approximately.
Straight grades	1,825
Light spotted	3,697
Hard spotted	170
White wasty grades ..	420
Yellow spotted	426
	6,538

From these figures it will be seen that the percentage of yellow spotted cotton is small and that the bulk of the crop is within the straight and light spotted grades. This improvement in the general raising of the grades is reflected in higher returns to the grower.

COTTON RESEARCH STATION.

A comprehensive programme of experiments was carried out at the Cotton Research Station, but, owing to the disastrous season, yields were reduced to a low average. Nevertheless, most valuable information was obtained. One of the fundamental objects of a research station is to obtain by experiments information which can be applied to commercial growing, and in this respect the station has been and is of inestimable value to the cotton-grower.

The necessity for early planting has again been demonstrated, and every effort should be made to obtain a well-prepared early seed-bed so that planting can be done following the first October rains.

The utilisation of grasslands, or cotton in rotation with Rhodes grass, for cotton-growing has been recommended for a number of years now, and experiments at the station this year again revealed the following advantages:—

1. Better penetration of moisture to the subsoil, which is so necessary in such a deep-rooting plant as cotton.
2. The carbon-nitrate ratio is much more suitable for the development of the cotton crop than is the case with older cultivations;
3. Lower production costs, because less cultivation is necessary to conserve moisture and to keep down weed growth.

A commencement has been made this season to develop strains of cotton of the Miller variety suitable for the Central district, and breeding work in this variety will be continued at the station.

PURE SEED OPERATIONS.

The adverse season has prevented the progress desired in increasing the pure stocks of some of the newer medium-stapled cottons. Owing to numerous replantings that became necessary, some pure seed plots became contaminated, with the result that in some varieties the actual increase in supplies is very slight.

The breeding operations in the Lone Star variety which are being carried out in the Mundubbera district continue to progress, and some very promising strains are being developed. Unfortunately, the Central Burnett suffered severe drought conditions, and no increase has been obtained this season from the progeny increase plots, but it is considered fortunate that no strains have been lost.

The Miller variety has again yielded well, and has proved its capacity to produce fibres of excellent strength under adverse conditions. This cotton undoubtedly shows definite suitability for much of the better forest slopes and heavier alluvials. This applies to the Central district, the Upper and South Burnett, and portions of the Southern district. This cotton harvests with less spotting than does any other variety being grown, and is looked for by spinners.

The Half-and-Half variety has again yielded satisfactorily, but is not suited to very hard conditions; it is exhibiting considerable variation, and much breeding work is required to produce uniformity.

The Ferguson and New Boykin varieties appear to be quite satisfactory. The latter, however, is much more uniform than the former.

Indio Acala has proved a most particular cotton in regard to its soil and seasonal requirements, but, owing to its high lint percentage, growers preferred it to other varieties, especially Durango. There is very little demand by the spinners for this cotton, and the distribution of seed is being limited.

The Ferguson variety, which is a quick-fruiting type, is proving itself suitable for much of the fertile alluvial soils. This is a shorter cotton for which there is an increased demand.

INSTRUCTIONAL.

The field staff has carried out its usual duties and has been fully employed in extension, advisory, and experimental work, which has included the allocation of pure seed plots; demonstrations of the methods of combating invasions of cutworm, corn-ear worm, and the web-spinner; the laying-out and planting of varietal tests, thinning and spacing tests; as well as individual inspections of cotton-growers, where the various findings and results of experiments and observational lists have been explained. The lastmentioned aspect of the staff work is most important and is bearing good results in relation to grassland rotation, conservation of soil moisture, and improved methods of culture.

In co-operation with the Queensland Cotton Board, officers of the Cotton Section carried out propaganda work in the Maranoa and Central districts by addressing meetings of farmers on various facets of cotton cultivation.

INSECT PESTS AND DISEASES.

Owing to the lack of spring planting rains, farmers had their seed-beds prepared long before planting was possible; there was, therefore, very little weed growth, which may have accounted for the almost complete absence of cotton seedling pests. Following the February rains, an emergence of moths of the corn-ear worm (*Heliothis obsoleta*) took place and a widespread laying of eggs resulted. Damage was fairly severe, but, generally, the later-planted cotton suffered worst, irrespective of soil type. Jassids did not become important pests until early March, when breeding increased rapidly and considerably interfered with the maturation of the bolls and the setting of a late top crop.

Tectacoris lineola was more prevalent than in past seasons, and by the end of March adults, nymphs, and egg masses were common.

PUBLICATIONS.

The following articles on cotton-growing were published in the *Queensland Agricultural Journal* during the financial year:—

"The Value of Grassland Cultivations in Cotton Rotations"—W. G. Wells.

"Thinning and Spacing Cotton"—W. G. Wells.

"Standover Cotton—A Menace to Adjacent Cotton Fields"—A. Nagle, Senr. Instructor in Cotton Culture.

"Harvesting Cotton"—R. W. Peters.

The Annual Report of the Cotton Research Station, by W. G. Wells, L. M. Hodge, and W. A. R. Cowdry, was again submitted for publication in the Annual Report of Experiment Stations, by the Empire Cotton Growing Corporation.

ACKNOWLEDGMENTS.

The Principal of the Queensland Agricultural High School and College has again provided facilities for breeding plots of varieties of cotton being developed for the Southern district.

The Agricultural Chemist and members of his staff have once more carried out analyses of a large number of grass and soil samples, and soil moisture and nitrate determinations of a voluminous number of soil samples. This work has been of the greatest assistance in helping to explain many of the problems that have arisen in the different districts.

R. W. PETERS,
Acting Director of Cotton Culture.

REPORT OF THE DIRECTOR OF FRUIT CULTURE.

Regarded from the aspect of weather conditions, the fruitgrowing industry of Queensland, in common with most other branches of agriculture, received a set-back during the year 1936-1937. Dry conditions prevailed in most of the fruit-producing areas of the State during the spring and until March of this year. Citrus crops were seriously affected, and banana plantations suffered severely as revealed by poor plant growth and small bunches; new plantings also were necessarily restricted. Pineapple growers did not feel the immediate effects of the dry weather on production, but in many cases growth of plants for subsequent crops was retarded. In the Stanthorpe district, only 4 inches of rain fell between August and November, but timely rains registered in December retrieved the position of growers. In the far North the season was satisfactory, although the rainfall was irregular.

Economically, however, the industry had a successful year. In the Stanthorpe district, particularly, the best season for several years was experienced. On the coast, banana growers have welcomed the return of the market to normality and good prices. Pineapple growers were again guaranteed 4s. 6d. per case at country stations for fruit for the winter pack, and a price per ton equal to 1d. a lb. for the summer crop. Citrus prices were good. Factory prices for papaws and strawberries increased. The demand for passion fruit still exceeds the supply. Considered generally, therefore, the position of the fruit industry is sound, and the prospects for the coming year are even brighter.

Banana production in this State, as well as in New South Wales, has declined very considerably during the past year. In 1935-1936 there were approximately 12,000 acres described as "bearing" in Queensland; in 1936-1937 only about 10,000 acres are in commercial production. With the decrease in supplies, however, and the operation of a pool in New South Wales, the average prices returned for bananas have been considerably in excess of the prices received for some years past. The consumption of bananas also has increased greatly, resulting in a stronger demand. Last year 350,000 cases were consumed in Queensland, as compared with 184,713 cases in 1932. The reason for the increase is largely attributable to an improvement in quality as a result of scientific ripening.

About one-third of the Queensland production of bananas is now derived from the South Coast between the Tweed and Nerang Rivers. As a result of successful experiments on the forest soils of the near North Coast, it is probable that that district will again produce heavily.

Banana growing with the aid of irrigation on the alluvial soils of the Burdekin district is capable of expansion. Stools, each carrying two, three, or four bunches averaging 20 to 24 dozen large fruit of excellent quality, have been observed; and since there are extensive areas of this land available further development of the industry in that region is only a matter of time.

The pineapple industry is rapidly becoming one of the most important branches of the fruit-growing industry in the State. Last summer 247,377 cases—approximately 12,000 cases more than the previous record cannery crop of 235,500 cases in the summer of 1935—was consigned to the canneries. The total production last year was 844,418 cases, compared with 830,186 cases in 1935.

According to the great demand recently for planting material there is every prospect of considerable increases in production during the next few years, and it is pleasant to record that an export market exists for the canned product. There is a strong demand also for processed pineapples on the Australian market—so strong, indeed, that nearly the whole of the cannery output for 1936 could have been absorbed by the Commonwealth. It was necessary, however, to process for the Canadian and British markets so as to ensure continuity of supply to hold this trade. In Canada, duty free admission is granted to Australian canned pineapples.

There has been increased production in most pineapple-growing areas, and most of the new plantings are on modern lines, as recommended by the Department. Interest has been awakened in the Central and Northern districts in the possibilities in pineapple production by the prospect of the establishment of canneries in the districts mentioned when the volume of pineapple production warrants the financial outlay. At Rockhampton a start has already been made with the establishment of a cannery at the Lake's Creek meatworks.

Excellent opportunities exist in selected areas in North Queensland for the production of pineapples. Furthermore, the land is often so situated as to favour the growing of the fruit at a minimum cost of production. The limited quantity of planting material available, however, and the fact that approximately £100 per acre is involved in planting costs where plants have to be purchased, must of necessity ensure that, although production will increase there, the rate of increase will be a steady one for some years to come.

An Australian Citrus Advisory Council has been formed by growers' organisations throughout the Commonwealth to organise the industry on lines that will provide for orderly marketing abroad and cope with production and marketing problems in Australia. The first meeting was held at Canberra last April.

While some new orchards were planted in Queensland during the year, the extremely dry weather was the cause of the destruction of many trees in districts in which irrigation is not practised.

Papaw growers had a very satisfactory year. There is a firm and unsatisfied demand for this fruit for canned tropical fruit salad, and also for chutney. The dry weather limited production, and in consequence interstate railings were reduced from 22,000 bushels in 1935 to 17,000 cases in 1936. The rapid increase in the tropical fruit salad trade has stabilised the papaw industry, which has led to greatly increased plantings. Canneries raised prices during the year from 2s. 3d. to 2s. 7½d. a case of 28 lb. for ripe papaws.

Strawberry crops suffered severely from the effects of the drought, but nevertheless growers had a good year financially. The fresh fruit market deliveries for the 1936 season exceeded those of the 1935 season by 54,000 pint boxes, and a slightly greater quantity (10 tons) was placed with canners than during 1935. Had the fruit been available, a further 100 tons could have been placed with canners. Queensland strawberry growers are fortunate in that their crop is the first in the Commonwealth to mature, an important factor in the steady expansion of the interstate trade. After many experiments, it has been ascertained that strawberries can be safely transported 1,200 miles—six days by sea.

The quantity of fresh berries marketed in Melbourne during 1935 was almost quadrupled in 1936.

By taking advantage of the factory demand growers have the means of stabilising their fresh fruit market.

During the year the price for jam berries was increased by the canners by one halfpenny to 5d. a lb.; while the price for a limited quantity of berries for canning was increased from 6d. to 6¼d. a lb.

Notwithstanding increasing production, the demand for passion fruit still far exceeds the supply. Keen competition existed for the crop from both local and Southern canners, and so acute was the shortage that some Queensland canners endeavoured to obtain supplies from other States.

Increased interest is being taken in the production of the avocado, which is gradually gaining in popularity as it becomes better known. Observations are being made and data are being collected regarding the performance of varieties existing in Queensland with the object of making a selection of the best, and, later, of inaugurating a budwood scheme on lines similar to that for citrus trees.

THE GRANITE BELT.

The Senior Instructor in Fruit Culture at Stanthorpe (Mr. H. St. J. Pratt) reports that the season has been one of the best that the district has ever experienced.

The tonnage of fruit produced was practically the same as that of the previous season—a good average crop, harvested without causing glut and depreciated values. Prices received have been good and fairly uniform throughout the season—a price position far more preferable than one of alternating high and ruinously low values.

Unfortunately, no matter how good a season may be generally, there will always be some growers who receive severe set-backs from agencies beyond their control. This season a late frost thinned out very extensively stone fruits in some localities, and hail, although covering a much smaller area than in the two previous years, was disastrous to the few holdings over which the storms passed.

The rainfall for the year aggregated 30¼ inches, which was slightly more than the average. In 1935 the fall was 8 inches below the average, and in 1936 it was 7 inches below. Spring rains amounted to only 4 inches and at the beginning of December the seasonal outlook was far from promising. In spite of good cultivation, the trees were beginning to suffer and the situation was causing grave concern. Soon after good rains fell, however. An aggregate of 5½ inches for the month changed the whole outlook. A good season was assured by further falls totalling 7½ inches in January.

Apples.—The apple crop was heavy and of excellent quality. Good prices prevailed throughout the season. The export trade for the season was satisfactory, the prices obtained being in advance of those of previous years. Consignments aggregated 26,223 cases, as compared with 25,632 cases in the previous year. Details:—

—	1937 Cases.	1936 Cases.
United Kingdom	15,443	19,115
East	8,721	4,140
Europe	..	2,377
In cool store awaiting shipment	2,059	..
Totals	26,223	25,632

Eastern shipments more than doubled those of the previous year, and it is expected that these figures will be increased next season. Most of the sales have been on a f.o.r. basis, which is considered to be the most satisfactory. A quantity of Jonathans was exported as early as the last week in January, and realised excellent prices in London. Very careful selection of matured and well-coloured fruit ensured the success of the consignment.

Grapes.—Grape growers have had a good season, the weather conditions throughout the summer being favourable except towards the end of the vintage, when heavy rain over a short period caused the berries of some of the more susceptible varieties to crack. Spring frosts caused damage to some vineyards while the vines were in early growth. The injury, however, was confined chiefly to low-lying areas, and the vines made a good recovery. Warm, dry weather prevailed while the vines were in bloom, and, consequently, varieties usually subject to bad setting of the flowers produced well-filled bunches of good weight.

Prices throughout the summer remained firm, even at the peak period of the vintage, while at the close of the season sales were made (for purple cornichon particularly) at from 8s. to 10s. a case. Rains in mid-summer caused serious splitting of the berries of some varieties. Gros Colman suffered the worst; and in some localities black muscats were injured rather badly. Italians were keen buyers of rain-damaged grapes for wine-making purposes, at prices ranging from £6 to £7 a ton; although these prices were not very high, they enabled growers to avoid what would otherwise have been a complete loss.

The vines generally made good growth, with an abundance of leaf and shade. This fact, together with the cool weather towards the end of the summer, affected ripening adversely, some of the varieties being slow in colouring and developing their full sugar content.

Export.—Two hundred and forty cases were shipped to the East, the varieties being muscatel, servant and Waltham Cross. Ten cases of red hannepoot were sent as a trial to test the market for this variety, but the prices realised were disappointing, although the shipment opened up in good condition. This is an interesting point which will be helpful for future consignments, as the grapes were cut after rain and were not in perfect condition for shipment. The returns for the first consignments were satisfactory, and the growers concerned have received sufficient encouragement to plan for export on a larger scale next summer.

Stone Fruits.—Spring frosts in some unsheltered areas did considerable damage to stone fruits when the trees were in bloom. With peaches, the early blossoming trees which bear usually the mid-season and late varieties, suffered most. Early varieties not so forward in bloom were only slightly affected.

Frost damage was not so extensive as it appeared to be in the early stages, and it had the effect of regulating the mid-season varieties, which in a normal season create usually a glut on the market. Prices in consequence remained firmer, and a good average was maintained throughout the season.

Vegetables.—Vegetable growers had a good season also, and prices have been well sustained throughout, largely because of the fact that the production on the coastal areas was adversely affected by the dry weather.

Bean Seed.—An attempt was made in a small way in the course of the year to produce disease-free bean seed for bean growers in other districts in Queensland. Excessive rains at a critical period spoilt a number of plots, but the spade work has been done, and by next season this activity should become firmly established.

PESTS AND DISEASES.

Fruit Fly.—[illegible] full of eggs and [illegible] they were mostly [illegible] not ready to oviposit.

Codling Moth.—Codling moth infestation was considerably less than last season, due to a large extent to the wider use of medicated or poison bandages. In the coming season it is expected that at least 250.000 apple trees will be bandaged.

Powdery Mildew.—Powdery mildew is no longer the problem that it used to be. Control measures recommended by the Department have been adopted generally.

Oidium.—The midsummer rain favoured oidium, but the damage was confined [illegible] foliage.

[illegible]—The dry [illegible] the summer [illegible] kept down [illegible]

[illegible]

[illegible]

Little Leaf.—The causes and cure of this very serious disease in the Stanthorpe district [illegible] will be found for the disease at Stanthorpe.

Internal Cork.—This season internal cork of [illegible]

BANANAS.

The report of the Chief Inspector of Bananas (Mr. H. J. Freeman) contains gratifying evidence of the sound progress of the banana industry.

Approximately 9.994 acres of banana [illegible] are now bearing; and 3.461 acres will [illegible] into production. New plantings [illegible] out of production. During the past twelve months a total area of 5.651 acres of banana land reverted to other uses.

[illegible]

The estimated production in Queensland for the past twelve months is 495.966 cases.

[illegible]

CITRUS FRUITS.

The Instructor in Citrus Culture (Mr. R. L. Prest) reports that because of the dry spring, fruit setting in coastal orchards was very light, resulting in a shortage of citrus fruit on the early market and consequent high prices. To keep the Brisbane market supplied, trial consignments were railed from the Cardwell district in North Queensland. The experiment was a complete success. Up to 16s. a bushel was obtained for mandarins and 11s. for oranges. Citrus fruit in North Queensland is fully mature on the trees before the rind commences to colour, but this defect can be rectified by a day or two in colouring rooms charged with ethylene gas.

In the Gayndah district the effects of the dry season were not felt so severely, as water for irrigation was available. In this district citrus growing is becoming increasingly important, and new plantings are being made every year. The high standard of quality, for which Central Burnett citrus fruits have gained a reputation, has been maintained.

Owing to the drier conditions, fungus diseases were less in evidence, but fruit fly and orange bugs caused considerable losses. Red scale is the dominant scale insect in the Gayndah district. Fumigation is again rapidly gaining favour, and growers with past experience of the benefits of cyaniding are increasing their stock of gassing tents, while others are adding new fumigation outfits to their orchard equipment.

In the Howard-Burrum district the dry weather was severely felt, but heavy rain in March prompted a late blossoming, in consequence of which an off-season crop is probable. In this district the benefits of intensive cultivation are apparent in many orchards, where despite the adverse conditions trees are showing strong, healthy growth. Brown spot of Emperor mandarins, which for the past few years has been causing concern to many growers, was less apparent, attributable probably to the dry summer. Nevertheless, following the rains definite symptoms of the disease were observed on the new growth which developed during April. Experiments with colloidal copper sprays were carried out in co-operation with the Pathological Branch for the control of brown spot, and results were promising.

PINEAPPLES.

The pineapple field officer at Nambour (Mr. P. Mitchell) reports that in the North Coast districts from Caboolture to Gympie the production of pineapples during the year, despite the adverse weather conditions, constituted a record. At the same time, the actual acreages under pines in bearing were approximately the same as previous seasons, indicating that the actual crop per acre—a very important economic factor with all crops—is very definitely on the increase.

In most cases all the newer areas are planted according to the methods adopted by the Department, i.e., soil treatment, closer planting, grading of planting material, and a complete programme of fertilizing with quick-acting fertilizer. Considerable acreages of young pines will be bearing for the next summer and winter crops. The 1936 spring plantings are doing exceptionally well. Land, which until recently has been considered as useless for replants, is becoming, under modern methods of treatment, practically equal in productivity to virgin country.

Growers are relying more and more on the Department for advice on pineapple culture generally. Demonstration plots and field trials throughout the district have been important sections of the instructional plan.

The general prospects of the pineapple industry from the cultural point of view are bright.

The pineapple field officer for the South Coast district (Mr. W. G. Hancock) reports that newly-planted areas have been laid out on modern lines. Surveying future prospects it is anticipated that considerable improvement will be evident from the spring of 1937 onwards.

During April and May a survey of soil types was made in the Glasshouse Mountains-Beerwah area in conjunction with the Agricultural Chemist's Branch. This work should prove of great value in pineapple growing when linked with similar surveys in adjoining districts.

CENTRAL DISTRICT.

The Senior Instructor in Fruit Culture for the Rockhampton district (Mr. W. J. Ross) reports that, although climatic conditions generally were better than those which prevailed during the previous year, they did not favour the fruitgrower, because their capriciousness was not conducive to the production of good crops.

Banana growing continues on a gradual decline, consequently considerable quantities of cased bananas had to be imported from other districts to supply district requirements. In other branches of fruitgrowing, however, there have been extensions, and cultural methods are gradually improving throughout, with a corresponding improvement in the quality of fruit obtained.

The effects of the weather were evident in pineapple areas also, but while the summer yield was below the average, the winter crop showed an improvement. Since a canning factory at Rockhampton became a possibility, plantings of the smooth leaf variety have increased over a wide area.

Up to the present time growers have not been able to extend their industry on account of the limitations imposed by the fresh fruit market. There are considerable areas of land in the Central district capable of producing excellent pines for canning, and with the development of the industry much of this land will come into cultivation. Since canned fruit salad is likely also to be included in the list of manufactures, large quantities of papaws and passion fruit, which grow well in parts of the Central district, will be required for this purpose, and growers of these fruits should benefit also.

Growers are showing a keener appreciation of the value of displaying their products to the best advantage. Comprehensive fruit displays were prominent features of the 1936 and 1937 Rockhampton Agricultural Society's shows.

Improvement continues to be effected in respect of general cultural practices, particularly in respect of methods of soil management, especially the retention of soil moisture, which is of great importance in this district. In the larger citrus orchards irrigation is being more extensively practised. The growing of green manurial crops is also becoming more common.

Grapefruit is gradually becoming more popular, and several new orchards have been planted.

In the tomato areas a more settled agricultural policy is developing gradually. Extensions have also taken place in respect to grape culture. The variety chiefly planted is Snow's black muscat (table), which matures very early. Consignments to both southern and northern markets during the past couple of seasons have given satisfactory returns, and have stimulated an extension of areas. Papaw cultivation is also extending gradually.

The quantity of passion fruit produced was slightly greater than in previous years. Quality and prices were good.

Custard apples, strawberries, melons, rosellas and miscellaneous fruits are grown in varying quantities in accordance with the demand.

Early melons marketed from early in November have returned good prices to growers for several seasons past, and increasing quantities are being grown each year. Considerable quantities of vegetables are grown in conjunction with fruit, and the local and western markets are largely supplied.

Country schools interested in rural club work have received attention, and as opportunity offered advice and short addresses pertaining to fruit cultural matters have been given to teachers and scholars.

Citrus Fruits.—Weather conditions resulted in a light setting of fruit generally. Insect pests were prevalent in some orchards throughout the year, thus causing a further reduction in the crop. Conspicuous among these were the cotton beetle (*Monolepta rosea*), the orange-sucking moth, and the green-horned bug, while fruit fly added to the depletion as the crop matured. Black spot was again in evidence, although not in the same degree as in previous years. The flying fox pest was particularly acute in citrus and mango areas in the coastal district. A light blooming of indigenous trees in virgin forests, a consequence of seasonal conditions also, curtailed the natural food supplies of these animals.

Bananas.—Byfield and Yeppoon are still the main producing areas. Some plantings have been made in other portions of the district, but the aggregate yield is not sufficient to meet local market requirements.

Damage caused by beetle borer, although the insects are present in most areas, has lessened, as a result of the application of control measures.

Papaws.—The cultivation of papaws is practised to a much greater extent in the Yarwun-Targinnie districts than in other portions of the Central division. Conditions in those areas suit production, and the quality generally is high. An outstanding characteristic of the fruit grown in these areas is its carrying quality, which permits of almost the whole of the production being sent to distant southern markets.

Grapes.—The grape crop generally was better than the previous year. The crop matured earlier than usual, and ripe muscats were on sale during the first week in December.

Passion Fruit.—The bulk of production comes from coastal areas extending from Tanby to Byfield, and attention is also given to its culture at Targinnie. Irrigation is essential for best results, and in its absence results have not been so satisfactory. A portion of the crop disposed of in the Brisbane market returned good prices. Usually a good market exists in Rockhampton and western districts for all the fruit grown locally.

Mangoes.—Innumerable mango trees grow in the Central district, but since in the past very little attention was given to selection of type, a multitude of varieties exist, of which most are inferior. By concentrating on improvement in quality, mangoes will soon win a regular remunerative market. Good quality fruit grown in the Central district usually pays better if sent to southern markets, but because of seasonal conditions the crop this year was very light.

BOWEN DISTRICT.

The Bowen district is the largest interstate exporting district for tomatoes in Queensland. During the calendar year, 1936, 277,621 cases of tomatoes were exported. Two tomato experimental and demonstration plots have been established in the district and growers' field days arranged from time to time.

Other exports from the Bowen district were:—Bananas, 2,903 cases; cucumbers, 15,151 cases; mangoes, 13,661 cases; pineapples, 13,993 cases; and pumpkins, 7,802 bags.

Bananas are grown mainly for local consumption, but there is ample scope for extension in the Bowen district on alluvial lands to which irrigation can be applied. Production from alluvial land in the Burdekin Delta is remarkable, and three bunches of 20 to 24 dozen large bananas are being produced from a stool in a year.

Cucumbers are grown during the winter for southern markets, and good returns are being received from comparatively small areas.

Mango varieties are unfortunately very mixed. Highly-coloured varieties sell well, but many of these varieties have a strong astringent turpentine flavour. Kensington is one of the most popular types in the north, and fortunately, unlike most other kinds, local experience indicates that it can be relied on to show 80 per cent. true to type from seed. This fact may have an important bearing in improving mango production in this State.

It is estimated that the 1937 summer crop will reach 35,000 cases. Growers are responding well to instruction in the latest methods of production, and a rapid crop increase is expected during the next few years. In the Ayr district along the banks of the Burdekin, soil and other conditions are excellent for the economical production of pines on a large scale.

NORTH QUEENSLAND.

The Instructor in Fruit Culture stationed at Cairns (Mr. S. E. Stephens) reports that the year 1936-1937 was one of light rainfall, and in consequence was only a fair season horticulturally. The early spring was characterised by beneficial showers of rain, but October and November were dry; falls aggregating 9 inches were registered in December, but the months of January and February were again comparatively dry.

Growers generally are becoming more conscious of the advantages of sound cultural practices. Because of heavy risk of soil erosion by tropical downpours and floods, tillage has to be adapted to circumstances. Pest and disease control is becoming more systematic.

Citrus Fruits.—Most of the 1936 citrus crop in the Cairns, Cardwell and Charters Towers districts was harvested by the end of August, but the crop in the Cooktown district extended as late as December. Generally, the fruit was of good quality. Black spot was noticeable, particularly in fruit from very old orchards. Scale, chiefly of the mussel variety, was also more prevalent in harvested fruit than it should be. This may be accounted for by the fact that growers frequently rely on the scale-destroying fungi to check scale infestation in their orchards. While these fungi do effectively control scale, they appear too late in the season to clean the fruit before it is ready to harvest. An outbreak of brown rot fungus caused considerable loss of fruit in the Cardwell district, but there has been no serious recurrence. Flying foxes caused heavy losses in some orchards. This pest is becoming more destructive, and seems to have acquired a particular liking for ripe mandarins.

The 1937 crop was slightly late in maturing, because of the comparatively dry summer weather. Normally, harvesting commences during February, but this year it did not start till the end of March.

Several trial shipments of early citrus fruit were sent forward to the Brisbane market. They carried very well, and after being coloured artificially in Brisbane, presented a fine appearance and sold at good prices.

Pineapples.—Climatic conditions of the North are eminently suitable for pineapple growing, and vast areas of suitable soil are available, but canning would have to be considered in connection with any plan for further development.

Bananas.—Banana production is equal to local market demands. The average quality has improved, the best fruit coming from the Cape Tribulation area.

Mangoes.—The 1936 blossoming of mango trees was the heaviest recorded for many years. When the crop matured, however, it was rather below normal in quantity, but the quality was good.

Following is a detailed description of all the varieties now listed as worthy of propagation:—

1. Papaw.—Tree tall, upright growth; fruit weight, 20 oz.; size, 5 in. by 3½ in. by 3¼ in.; skin dull yellow suffused with red, and thickly dotted with light yellow spots; beak very slight one inch from apex; stem offset to right, set in a depression; left shoulder very broad and rising slightly, right shoulder falling abruptly from stalk; flesh orange-yellow, fibreless; season late November and early December.

2. Banana.—Tree upright growth; fruit weight, 7 oz.; size, 4¼ in. by 2¼ in. by 2 in.; skin uniformly bright golden-yellow; beak indistinct ½-inch from apex; stem offset to right and slightly raised; left shoulder broad and level, right shoulder falling abruptly; flesh light yellow, fine-grained, fibreless; flavour sub-acid, very slightly turpentine; season last week in November.

3. Custard.—Weight, 9½ oz.; size, 4¾ in by 3¼ in. by 2½ in.; skin uniform golden yellow; beak fairly prominent close to apex; stem level and slightly offset to right; left shoulder rising, medium broad; right shoulder broad and falling; flesh bright reddish-yellow, juicy, firm, almost fibreless; flavour sweet, pronounced mango; season mid-December.

4. Cherry.—Weight, 2 oz.; size, 2¼ in. by 1⅞ in. by 1¾ in.; skin bright red, shading to bright orange-yellow; beak very slight; stem raised; left shoulder broad and rising, right shoulder falling; flesh orange-yellow, firm, almost fibreless, very sweet; season late November and early December.

5. Cashmere.—Tree round head; fruit size, 4½ in. by 2½ in. by 2¼ in.; skin greenish-yellow, thickly dotted at apex end; beak very slight ⅝ inch from apex; stem centrally placed, raised just above level; left shoulder narrow and level, right shoulder falling abruptly; flesh yellow shading to orange round pit, fine-grained and fibreless; slight flavour and strong scent of granadilla.

6. Crimson Blush.—Tree tall, upright growth; fruit weight, 6½ oz.; size, 3⅜ in. by 3 in. by 2⅜ in.; skin thin, bright red and golden-yellow dotted with brown; beak very slight; stem set in depression, centrally placed; left shoulder broad and rising, right shoulder prominent and falling gently; flesh bright-yellow, fibreless; seed ribbed longitudinally; flavour of monstera deliciosa; strongly scented; season late November and early December.

7. Kinara.—Tree round head, upright growth; fruit weight, 8 oz.; size, 3½ in. by 3⅛ in. by 2¾ in.; skin pale green, changing to greenish yellow; beak very indistinct ⅞ inch from apex; stem centrally placed on a small cone in a depression; left shoulder broad and rising slightly, right shoulder broad and falling slightly; flesh bright orange-yellow, fibreless; season late December and January.

Several tons of sliced mango fruit was consigned to a southern chutney manufacturer.

Papaws.—Plentiful supplies have been available throughout the year for the local fresh fruit markets. Chinese growers still predominate in this branch of fruitgrowing.

The Solo variety mentioned in the last annual report as having been obtained from Hawaii has now fruited in Cairns. As reported, this variety does not appear to be definitely fixed. Among the plants raised from the seed obtained, two distinct types were observed—one a bi-sexual type producing good fruit of an average size of six inches long by three inches in diameter, with thick flesh and small seed cavity; and the other a pure female bearing round to ovoid fruit about three to four inches in diameter, with thinner flesh and large seed cavity. Both types yellow a week or more before they ripen, and when fully ripe are exceptionally sweet.

Granadillas.—An extended season ruled for granadillas, the fruit being plentiful from April to October. The local market was at times over-supplied.

Litchis.—Locally-grown litchis returned 2s. a lb. to the grower. Several of the best Chinese varieties are now being grown in the Cairns district, including loh mai chee, kwai mee, wai chee, and haak ip.

Avocados.—The avocado grows very well and produces prolifically in North Queensland.

Grapes.—The grape crop in both the Charters Towers and Herberton districts was a very fair one. In the former district muscatel is the variety chiefly favoured, while at Herberton the Isabella, Goethe, and Ferdinand de Lessop are the popular varieties.

Plums.—Fruit fly again caused some loss in the plum crop. A ready sale was found for all sound fruit produced. There has been a small extension of the area under plums.

Minor Fruits.—Persimmons, strawberries, and the various tropical fruits produced well, but the present market demand does not warrant any great extension of the areas planted. On the northern coast difficulty in maintaining the stand of strawberry plants over the summer months has been experienced; fresh planting each year is still necessary.

Tomatoes.—In the Cardwell district, the tomato crop for the southern market was rather smaller than in previous years. Wilt and blight have caused frequent crop failures, which have dampened the enthusiasm of some growers. Charters Towers district produced a good crop for local and western markets, and the Koah area also grew good crops for local markets.

Melons.—Heavy crops of good-quality melons were produced in the Mareeba and Cape Tribulation areas, and fair returns were obtained.

General.—During August a party of senior students from the Queensland Agricultural High School and College visited North Queensland, and two field days covering tropical fruitgrowing were held for their benefit.

Seeds and plants of various tropical fruits have been distributed to numerous applicants.

Fruit Imports.—Fruit importations through the port of Cairns have, generally speaking, been of fair quality throughout. The stone fruit season appeared to be somewhat restricted, and towards the latter part of it a fair percentage of consignments were arriving in an advanced stage of ripeness, and deteriorated rapidly after removal from cool store. There was a marked absence of fruit fly in imported fruit, but codling moth was fairly prevalent in many lines of apples.

FRUIT PACKING.

In his report the Instructor in Fruit Packing (Mr. J. H. Gregory) has outlined the progress made during the year in the education of orchardists and school children in the correct methods of handling fruit for market.

School Instructional Work.—School classes in fruit packing are conducted regularly in the southern districts. The number of schools receiving instruction reached a maximum of thirty-four. Classes were conducted at Stanthorpe, Redland Bay, Maroochy, Brookfield, Sunnybank, Rochedale, Tamborine Mountain, Howard, and Gayndah districts, and, in addition, schools were visited in the Ambrose, Cardwell, and Rollingstone areas. Undoubtedly, school classes in packing do achieve valuable results.

General Instruction in Fruit Packing.—An improvement in packing methods generally has been very noticeable. Magnetic Island pineapples, Cardwell citrus, and northern granadillas, avocados, and other tropical fruits are now arriving in Brisbane in much better condition, due to better packing methods. That applies to bananas for consignment to the Melbourne and other southern markets also.

EXPERIMENTAL WORK.

An experiment with the colouring of tomatoes was conducted in the Redland Bay district, with interesting results, bearing on the practicability of long-distance carriage of Queensland fruit. Small apple and grape storage tests were made and very satisfactory results obtained. For many years granulated cork has been used for packing grapes, and in some countries sawdust has been used. It has been difficult, however, to obtain a local taint-free sawdust, but in conjunction with the Forestry Department a method of treating sawdust has been devised. Grapes packed in the treated sawdust were placed in cold storage and were sound and free from taint on removal.

In North Queensland experimental packs with granadillas have been successful, proving that there is no real transport difficulty in respect of distant markets.

Full reports on experimental work are made as each experiment is completed.

GENERAL.

The commercial use of the bushel case for bananas has proved satisfactory to growers, although, unfortunately, some distributors have not supported the innovation. Cluster packing has been treated by the trade in a similar way.

Banana Industry Protection Board.—The supervision of the banana industry has been continued by the Banana Industry Protection Board, to the benefit of the industry.

As the result of effective control measures, bunchy top has made no further advance northwards, and intensive inspection in that part of the quarantine area known as the buffer area has been maintained.

Precautions against the spread of thrips (*Scirtothrips signipennis* Bagn.) to districts in which its presence has not yet been reported are still proving effective.

During the 1936-1937 planting season applications for planting just over 3,000 acres were approved, while during the twelve months to the 31st March, 1937, an aggregate area of 5,600 acres reverted to other uses.

Nurseries.—The registrations of nurseries for 1937 totalled 165. Nurseries, generally, are kept in good condition.

Grape Phylloxera.—In the course of the year severe outbreaks of phylloxera occurred in some localities, as a result of which many acres of grapes had to be destroyed. Resistant varieties which have possibilities in coastal districts are "Rupestris du Lot," "A.R.G.I.," and "1202."

Citrus Budwood.—A total of 69,316 buds were selected and distributed to Queensland nurserymen. The following are the numbers of the principal varieties supplied:—

Oranges.	
Washington Navel ..	10,200 buds
Valencia Late	9,050 ,,
Joppa	8,700 ,,
White Siletta	2,125 ,,
Mandarins.	
Emperor	9,350 ,,
Beauty of Glen Retreat	8,500 ,,
Scarlet	5,400 ,,
Lemons.	
Villa Franca	6,500 ,,
Lisbon	5,000 ,,
Grapefruit.	
Marsh Seedless	1,875 ,,

The total number of citrus trees actually sold in Queensland during 1936 was 27,674, made up as follows:—

Variety.	No. of Trees grown in Queensland.	No. of Trees from N.S. Wales.
Washington Navel	5,424	1,238
Valencia Late	4,414	309
Joppa	2,130	203
White Siletta	418	60
Emperor	2,860	351
Beauty of Glen Retreat ..	2,237	291
Scarlet	1,005	217
Villa Franca	2,906	242
Lisbon	2,392	117
Marsh Seedless	501	119
Various Other	118	122
	24,405	3,269

Citrus Budwood Plot.—The Citrus Budwood Plot at Gayndah has continued to make excellent growth, and several thousand buds were selected from this source. An irrigation plant has been installed, and this will ensure a continuity of growth.

FIELD EXPERIMENTAL WORK.

Bananas.—The fertilizer trials on several plantations throughout banana growing districts have been continued, but the dryness of the season made it difficult to assess actual benefits. The plots, however, withstood the adverse conditions well in comparison with surrounding plantations.

A green manurial experiment was conducted on a South Coast banana plantation to determine, *inter alia,* varieties likely to be suitable for summer growth and to serve in checking erosion during the wet season. The experiments demonstrated very clearly that the more common bean cover crops—such as cowpea and poona pea—are of no value whatever on account of attack by bean fly. The giant soya bean, however, showed promise, and that it is a crop with which it is worth persevering.

Pineapples.—Storage tests and analyses made with pineapples selected from plots fertilized with the object of determining any difference resulting from the application of muriate and sulphate of potash have been finalised. From the aspects of carrying and keeping qualities, the tests showed that there is no difference in favour of the use of sulphate as against muriate of potash. It has been shown elsewhere, however, that, regarded from the viewpoint of increased acreage production, sulphate of potash is definitely superior to the muriate form to the extent that added yield increases up to 22 per cent. are obtained following the use of the sulphate form.

Citrus Fertilizing Trials.—The citrus fertilizer trials at Tamborine Mountain are being continued, but the dry seasonal conditions somewhat retarded progress. All the plots, however, showed yield increases over untreated controls, in spite of the adverse weather. In one plot a 100 per cent. increase was obtained, while in a new plot of nine trees laid down in 1935, from which the average production was only ¾ bushel per tree, a total crop of 29¼ bushels was harvested.

In the Gayndah district experiments have been commenced to ascertain the effect of the application of dolomite to the soil around trees suffering from foliocellosis.

A soil erosion experiment was commenced on an orchard at Palmwoods, in an effort to determine a suitable method of reducing soil wash in established orchards on which contour draining is more or less impracticable. Main drains were laid down in the orchard and grassed with buffalo grass. The plan is, during cultivation, to build slight ridges across the fall of the orchard between tree rows, and by this means carry off surplus water to the main drains.

A citrus root-stock experiment has been undertaken at Lawnton with the varieties Washington Navel, Valencia Late, Joppa, Beauty of Glen

Retreat, Emperor, Scarlet and Marsh Seedless on the following stocks:—Sweet orange, sour orange, trifoliata, rough lemon, and pomelo. The seedlings were raised locally and worked in co-operation with the Queensland Acclimatisation Society.

Papaws.—In view of the experiments being carried out with papaw varieties at the South Johnstone Research Station, it has been decided to transfer local interests in this matter to that centre, where better facilities exist for the work.

Dates.—The experimental block of dates planted at Barcaldine is progressing satisfactorily. Seeds of a number of selected American varieties were brought from America recently, and arrangements have been made for propagation at the Cotton Research Station at Biloela.

Tomatoes.—Tomato experiments undertaken in the Central district yielded valuable data on which to base further trials. At the outset, it has been shown that "divided mixtures" applied at different periods are desirable. For example, a mixture of one part sulphate of ammonia and six parts of superphosphate applied before planting, followed later, when the plants set their first fruit, by an application of a mixture containing one part sulphate of potash and two parts of superphosphate, gave slightly better general results than mixtures of which the whole was applied at one time.

Grapes.—Experiments have been instituted with the object of improving the fruit setting of certain varieties of grapes subject to "coulure," and at a later date pruning tests are to be undertaken in connection with the same trouble.

Cold Storage Trials.—To test the storage qualities of grapes cut at various stages of ripeness, and also to act as a check on the consignments to the East, several cases of "Servant" grapes were placed in Birt's cold store. After four weeks' storage the grapes were in good condition, despite the fact that they had been held for nearly twice the period that they would have taken on the voyage to Singapore.

Local sawdust from hoop pine logs was used as a filler in one case to ascertain how it compared with the usual filler (granulated cork); the test proved to be in favour of the sawdust, which showed less mouldy berries and more freedom from taint, while in general appearance the bunches packed in sawdust were superior also.

Bean Seed.—The production and export of French beans from North Coast districts has reached very large proportions during the last few years, but difficulty has been experienced by growers in obtaining good disease-free seed. Several plots have been laid down in the Mary Valley and Cooroy districts, but the trials are not complete.

Passion Fruit.—Experimental trellises wired in several different ways have been erected on a property near Manly (Q.), with the object of ascertaining the best method of pruning to obtain maximum cropping and disease resistance. The vines have been planted and are making good headway.

PUBLICATIONS.

Regular contributions on various horticultural subjects have been supplied to the Departmental Weekly News Bulletin. In addition, articles on the following subjects have been published in the "Queensland Agricultural Journal":—The Sugar Apple; Packing Lettuce for Market; Papain; The Bullock's Heart (Custard Apple); Pruning of Grape Vines; Bagging of Banana Bunches on the Plantation; Date Culture; The Sour Sop; Fruit Marketing Notes (monthly); Replacing Missing Grape Vines; General Fruit-growing in Queensland; The Cochin Goraka; Cluster Packing of Bananas; Harvesting and Packing of Peaches and Pears; Citrus Culture in Queensland; Rhubarb Growing; Banana Marketing; Passion Fruit Marketing; Passion Fruit Growing on the South Coast; The Star Apple; Granadilla Packing; Celery Growing.

EXPORTS AND IMPORTS.

The attached figures prepared by the Senior Fruit Inspector record the amount of exports and imports for the year.

H. BARNES,
Director of Fruit Culture.

INTERSTATE EXPORTS—YEAR ENDING 30TH JUNE, 1937.

—	Bananas.	Citrus.	Pines.	Tomatoes.	Strawberries.	Mangoes.	Egg Fruit.	Various Fruit.	Melons.	Seeds.	Plants.
	Cases.	Cases.	Cases.	Cases.	Trays.	Cases.	Cases.	Cases.	Bags.	Bags.	Packages.
ne ..	13,951	..	7,233	5,913	83	52	66	262	..	9,492	1
m ..	189,884	11,079	225,038	397,989	10,171	9,078	553	54,675	6,714	1,472	371
garra	2,393	226	2,206	3,240	49	100	6	22,453	231	67,108	82
ampton	..	148	1,334	4,284	..	144	..	133	..	..	..
..	..	..	15,267	249,043	..	6,467	625	54	418	..	..
ville	..	..	1,630	499	..	117	..	5,798	..	..	..
..	..	..	..	..	..	..	..	29	..	..	25
Totals	206,228	11,305	234,477	407,142	10,303	9,230	625	77,390	6,945	78,072	454

NOTE.—Totals made up of Brisbane, Clapham, and Wallangarra only.

—	Pumpkins.	Potatoes.	Maize.	Onions.	Peanuts.	Ginger.	Tobacco.	Cucumbers.	Chillies.	Vegetables.
	Bags.	Bags.	Bags.	Bags.	Bags.	Bags.	Packages.	Cases.	Packages.	Packages.
ne	31,740	403	172,873	5,391	46,725	5	5,927	4,385	32	3,659
m	30,461	872	3,241	2,201	469	192	12	27,760	615	67,882
garra	1,220	86	32,062	90	55	2	..	570	..	2,403
ampton	..	..	..	..	..	..	..	..	..	..
..	9,316	..	..	..	..	..	..	11,508	647	13
ville	554	..	..	..	..	..	..	..	..	..
..	..	..	171,105	..	4,463	..	1,447	..	..	..
Totals	63,421	1,361	208,176	7,682	47,249	199	5,939	32,715	647	73,944

NOTE.—Totals made up of Brisbane, Clapham, and Wallangarra only.

INTERSTATE IMPORTS.

	Fruit.	Potatoes.	Vegetables.	Plants.	Onions.	Garlic.	Swedes.	Seeds.	Tobacco.
	Cases.	Bags.	Packages.	Packages.	Bags.	Bags.	Bags.	Packages.	Packages.
ne ..	441,829	180,7210	13,963	253	45,259	13	13,084	..	..
m ..	372,352	42,710	10,368	384	1,585	..	..	1,905	135
garra	137,488	47,797	2,767	846	3,344	..	..	19,436	424
ampton	3,339	22,237	716	10	7,899	..	..	..	..
..	..	4,366	5	..	1,136	..	..	..	..
ville ..	40,384	43,523	1,789	62	12,747	..	1,170	..	..
..	35,411	24,597	2,035	11	8,489	13	679	..	..
Totals	951,669	271,227	27,098	1,483	50,188	13	13,084	21,341	559

NOTE—Totals made up of Brisbane, Clapham, Wallangarra.

IMPORTS—QUARANTINE ACT.

eral.	Timber.	Staves.	Bamboos.	Rattans.	Skewers.	Timber.	Timber.	Timber.	Parcel Post.
kages.	Logs.	Bundles.	Bundles.	Bundles.	Bundles.	Pieces.	Super. Feet.	Bundles.	Packages.
122	1,761	449,780	138	3,057	87,100	35,186	1,448,522	122	360

EXPORTS—COMMERCE ACT.

Fruit.	Plants.	Vegatables.	Seeds.	Maize.
27,191 cases.	14 packages.	450 packages.	433 packages.	4 bags.

A. PERSON, Senior Inspector Diseases in Plants.

REPORT OF THE DIRECTOR OF DAIRYING.

The prolonged dry period which commenced late in 1935 continued during the year almost without a break. Ephemeral fever ("Three-day Sickness"), which spread rapidly through the dairy herds from north to south, was an additional factor in the decline in the quality as well as the quantity of dairy products.

Beneficial rains fell over most of the dairying districts during March, but, because of the dryness of the subsoils and the hot, dry weather which followed, were inadequate for the maintenance of pastures. It was remarkable, nevertheless, how production actually increased as compared with that of the same period last year.

The Government made available £129,000 to farmers for the purchase of fodder at bare cost, and thus enabled the stock to be kept in better condition to respond quickly when pastures were freshened by infrequent showers. This was noted to a greater extent on the Darling Downs, where cereal crops were fed off.

New butter factories commenced operations at Biloela, in the Callide Valley, and at Millmerran, on the Darling Downs; while another at Jandowae is nearing completion.

Notwithstanding the adverse conditions, Queensland factories have been successful in competitions, both in Australia and overseas.

BUTTER PRODUCTION.

The quantity of butter manufactured aggregated to 84,401,372 lb.

The following table shows the monthly production of butter during the period:—

BUTTER PRODUCTION, 1936-37.

	lb.
1936—	
July	4,929,683
August	5,961,930
September	6,066,636
October	5,578,733
November	4,547,412
December	5,219,709
1937—	
January	8,397,758
February	8,301,420
March	10,516,812
April	10,476,743
May	8,143,065
June	6,261,471
Total	84,401,372

MARKETS.

This State exported approximately 61 per cent. of its output, most of which went to Great Britain. Approximately 3 per cent. was sold interstate.

GRADING OF BUTTER.

The following table, which indicates the quality of the butter graded, has been received from the Commonwealth Dairy Branch:—

BUTTER, SALTED AND UNSALTED.

Butter graded for Export—including pats and tins.

Month.	Choicest Boxes.	First Boxes.	Second Boxes.	Pastry Boxes.	Reject Boxes.	Total Boxes.
1936.						
July	21,809	10,267	2,218	364	86	34,744
August	22,502	31,425	4,172	1,301	21	59,421
September	15,716	43,620	6,555	2,866	16	68,773
October	16,117	30,995	5,699	714	..	53,525
November	5,410	22,982	11,198	770	32	40,392
December	2,957	33,226	12,738	1,774	43	5 ,738
1937.						
January	14,387	70,493	25,701	2,262	89	112,932
February	12,461	59,850	23,167	2,468	215	98,161
March	20,064	94,122	26,943	2,072	166	143,367
April	43,141	97,525	16,275	1,418	144	158,503
May	35,193	61,930	6,788	336	115	104,362
June	22,851	43,077	3,526	144	7	69,605
Grand Total	232,608	599,512	144,980	16,489	934	994,523
Per cent.	23·4	60·3	14·6	1·6	0·1	

BUTTER QUALITY.

The quality of the butter, as stated, was affected by drought and ephemeral fever, but the relief rains in some districts brought about an improvement in quality.

In the course of the year the control of butter sales in the Greater Brisbane area was taken over by the Butter Board. This transfer was made at a time when there was great difficulty in securing a sufficient quantity of high-grade butter for the local market, and at one stage it was necessary to import a quantity from other States in order to give the consumer the high-class service which the Board had undertaken to provide. Since the March rains little difficulty has been found in providing the local market with choice butter.

As the patting is done on premises owned by the Board, the scheme lends itself to effective supervision. All butter submitted for the metropolitan market is now tested for composition and quality, and passed by the grading inspectors of this Branch.

CHEESE PRODUCTION.

The production of cheese amounted to 7,771,296 lb. for the year.

Details:—

CHEESE PRODUCTION, 1936-37.

	lb.
1936—	
July	405,353
August	611,499
September	733,946
October	683,569
November	421,077
December	372,303
1937—	
January	837,619
February	755,217
March	707,251
April	844,646
May	739,045
June	660,401
Total	7,771,926

CHEESE GRADED FOR EXPORT.

The following table, received from the Commonwealth Dairy Branch, indicates the quality of the cheese graded:—

Month.	Choicest Crates.	First Crates.	Second Crates.	Third Crates.	Reject Crates.	Total Crates.
1936.						
July	..	120	3	..	..	123
August	..	123	..	..	..	123
September	..	220	183	10	..	413
October	..	597	628	20	6	1,251
November	..	499	684	79	1	1,263
December	..	115	344	15	2	476
1937.						
January	..	339	525	58	1	923
February	..	598	1,526	88	12	2,224
March	15	895	1,249	68	9	2,236
April	14	830	1,131	2	2	1,979
May	..	634	832	..	2	1,468
June	..	507	916	9	2	1,434
Grand Total	29	5,477	8,021	349	37	13,913
Per cent.	0·21	39·37	57·65	2·51	0·26	

NOTE.—Processed cheese, and cheese packed in jars or tins not included in this table.

QUALITY OF CREAM.

The unfavourable conditions mentioned previously were against the production of a high-grade cream.

The control of the transport of cream engaged the attention of a specially appointed committee. Cream routes for many districts have been gazetted with the object of improving transport conditions from the farm to the factory.

DAIRY RESEARCH.

The Dairy Research Laboratory has continued to render valuable assistance to the industry. In July the first advanced school of dairy science was conducted at the laboratory. Six trainees selected from the staffs of factories in different parts of the State were given a month's intensive instruction in bacteriology and chemistry.

The school was a pronounced success, and many inquiries regarding future courses have been received. An annual school of instruction for an increased number of students has been approved.

REBATE SCHEME.

The Dairy Cattle Improvement Rebate Scheme, under which rebates of railway freights are granted to dairy farmers purchasing young bulls whose dams have qualified for entry into the advanced register of the respective herd books, was continued during the past year. Purchasers numbering 67 benefited to the extent of £265 13s. 11d. by way of rebates. This scheme has been of great assistance to farmers desiring to improve the production of their herds.

GRADE PRODUCTION RECORDING.

Because of the protracted dry weather there was a decrease in the number of herds submitted for testing; some were unable to complete the full period.

The practice of herd improvement, both by the testing of the females as well as by the purchasing of bulls from high-producing dams, is becoming more general.

FACTORY RECORDS.

The method of recording accounts by dairy associations was altered by the new Regulations which came into operation during the year.

The institution of a patting system by the Queensland Butter Board involved changes in the compilation of statistics in the Branch, the method of payment, and the control of cream transport by the dairy associations.

The incorporated report of the Inspector of Accounts contains the relevant details.

DAIRY CATTLE IMPROVEMENT ACT.

Successful field days were organised and conducted at several dairying centres, although extensional activities were restricted by the bad seasonal conditions ruling in several districts.

The branch has kept in contact with local dairy committees by addresses on technical topics at regular intervals. Topical papers for reading and discussion at meetings also were circulated regularly.

There are now 162 local dairy committees functioning within the Queensland Producers' Association.

VETERINARY SERVICES.

Under the Dairy Cattle Improvement Act, the department has veterinary surgeons stationed in chief dairying districts of the State. These officers are in charge of the testing under the Tubercle-free and Contagious Abortion-free Herd Schemes as well as the control of the health of dairy stock in general. Their services are otherwise at the disposal of dairy farmers in respect of matters relating to animal health.

G. H. E. HEERS, Director of Dairying.

STAFF REPORTS.

DAIRY RESEARCH.

Mr. O. St. J. Kent, B.Sc., Senior Dairy Technologist, reports:—

Butter Factory Surveys.—This work has been continued throughout the year, and many factories have been visited. The survey work has assisted the factories in overcoming butter quality troubles, and has been responsible for improvement in the efficiency of factory equipment. Particular attention has been given to water problems at the factories, and, as a result, quality of water in Queensland has been improved by the introduction of various methods of treatment—such as chlorination, treatment with ultra-violet light, sedimentation, and filtration. The chemical composition of many of our Queensland factory waters has been investigated, and this work will be continued throughout the coming year. The water problem in factories is a very important one, and is a phase of dairy research that requires much investigation and attention.

The survey work has also shown that factory methods are improving rapidly. Methods of neutralisation and pasteurisation are more efficient to-day than they were a year or two ago. Mechanical neutralisation has very largely displaced obsolete and tedious methods, and has resulted in better control and saving of much valuable factory time, while improved types of pasteurisers have given greater efficiency.

Butter Quality.—During the year the quality of butter generally was not up to its usual standard. The two main factors operating adversely were the prolonged dry weather and "three-day sickness."

Investigations have been carried out during the year on defects in butter, particularly in respect of deterioration of pat-butter. Although investigations on this problem are by no means complete, there is a definite indication that the working of butter in the churn and the subsequent methods of packing have a serious influence on bacterial decomposition of butter. This important work will be continued.

An experiment on the washing of low-grade cream was conducted with the object of determining its value under Queensland conditions. It will be necessary to make further investigations on this work before its real value can be assessed. This treatment, if successful, will be very beneficial to butter quality generally.

Many samples of butter were examined to determine their bacteriological and chemical composition, with the object of assisting factory managers to overcome defects.

Standardisation of Butter.—Arrangements have been made with a number of butter factories for the inauguration of a scheme whereby such factories will be assisted in maintaining the composition of their butter at a definite standard. This service will enable factories to secure the most economical manufacture from the butter-fat supplied.

A competition conducted by the Royal National Association at the annual Exhibition helped to stimulate interest in the production of a butter of standard composition, and assistance was given by this laboratory in judging the butters.

Samples from Farmers.—Samples of milk, cream, and other products from the farm have been examined in the laboratory to assist farmers in overcoming their troubles. Many of the defects in samples submitted have been bacteriological. One sample of milk with an objectionable odour was found to be derived from a cow fed on silage which was in a state of decomposition as a result of excess moisture at the bottom of the pit.

Cheese.—Considerable attention has been given to the cheese industry of the State. Investigations on factors influencing the quality of cheese were conducted in the course of the year. Lactic cultures (cheese starters) are now prepared in the Brisbane laboratory and forwarded to the cheese factories at regular intervals. These cultures have been carefully grown at the laboratory, and experiments with various strains and mixtures of different kinds have been made. So far a mixture of S. Cremoris and S. Lactis (known as 50/50 starter) has given the best results. Since last November 250 starter cultures have been forwarded to different factories.

Defects in Cheese.—The drought and "three-day sickness" had considerable influence on cheese quality. There is evidence also that mammitis milk influences cheese quality; and there is much need for a survey of dairy herds to determine the incidence of mastitis and other diseases and their economic importance to the industry.

Bitterness in cheese is a defect that has been receiving attention during the latter portion of the year, and much useful data have been secured which will assist in overcoming the trouble.

Dairy Schools and Field Days.—In July the first advanced school of dairy science was conducted at the Brisbane laboratory. Six selected students from various butter factories were given one month's intensive instruction in bacteriology and chemistry. The course consisted of lectures, laboratory work, and visits to places of dairy industrial interest.

Field days have been conducted in various farming centres.

Contributions have been made to the *Agricultural Journal* and *Weekly News Bulletin* regularly by various members of the staff, and as part of the extension service of the laboratory.

Toowoomba Laboratory.—Arrangements were made in the course of the year with the Downs Co-operative Dairy Association, Toowoomba, for the utilisation of their modern laboratory for investigational work on the Darling Downs.

Mr. L. E. Nichols, the Officer of the Dairy Research Laboratory stationed at Toowoomba, reports:—Work commenced at the Toowoomba Dairy Laboratory in September.

Some water supplies have been proved unsuitable for butter manufacture, and in all cases technical advice has led to effective results. Several isolated "rabbito" outbreaks occurred, and precautionary measures were applied.

"Three-day sickness" was the subject of special investigation. This disorder affected cream quality seriously, giving rise to manufacturing difficulties and subsequent rapid deterioration of the butter. Dairy farmers were kept fully informed of the results of the investigation and of remedial methods.

Cream defects were found to be caused chiefly by udder troubles, particularly mastitis. Unsatisfactory water supplies, lack of care in production and storage of cream on the farm were also contributing factors. Advice has been tendered to farmers on ropey, albuminous, fermented, and metallic and other defects in their products.

Defective neutralisation and pasteurisation have been found to be the cause of occasional de-grading of butter, quite apart from bacterial, yeast, and mould contaminations. Bacterial surveys have been carried out with effective results.

An investigation was made into causes of rapid deterioration of pat butter in collaboration with district dairy officers.

The results of both chemical and bacteriological investigations have been applied in an effort to improve cheese quality.

Modified methods of cultivation to maintain the vitality and vigour of the new cheese starters to suit the milk supply of certain cheese factories were adopted with favourable results. Cheesemakers consider that the best of the new starters is the mixture of S. Lactis and S. Cremoris, known as the 50/50 starter. Among the causes of poor quality cheese were faulty subculturing methods and lack of temperature control of the initial starter. Bitterness in cheese is a defect which is now receiving attention. Different strains of starters are being tested in relation to this defect, and other factors are also being investigated.

In the course of cheese factory surveys, the examination of the milk supply showed the necessity for efficient pasteurisation.

The effect of "three-day sickness" and drought conditions on cheese yields and quality was marked.

Milk and cream suppliers make full use of the laboratory's facilities and seek advice readily when an occasion arises.

FACTORY ACCOUNTS.

Mr. G. B. Gallwey, Inspector of Factory Accounts, reports:—

Most of the year has been taken up with the inauguration of the cream transport system, which was brought into operation by an amendment of the Dairy Produce Act. The duties imposed by the amended legislation have been the gazetting of cream routes; inspection of the conditions of cartage; issue of licenses; and inquiry into anomalies that have arisen.

An inspection of accounts under the Drought Relief Scheme was undertaken, in addition to the regular inspections of the accounts of dairy associations.

The survey of the balance-sheets revealed a reduction in the cost of manufacture and a rise in the average price, which was 12·22d. per lb.

The methods of keeping accounts in the cheese factories were investigated with a view to placing them on a uniform basis.

HERD RECORDING.

Mr. L. F. Andersen, Senior Herd Tester, reports:—

During the year under review herd recording received a severe setback, due to the prevalence of drought conditions and the incidence of "three-day sickness," which spread rapidly throughout the dairying districts of the State. There was consequently a decrease in the number of herds submitted. The trend of correspondence from dairy farmers who, perforce, had to discontinue, however, indicates that most of them will resume herd recording as soon as conditions become more favourable.

The decrease in the number of herds submitted was marked, only 239 herds being tested during the year.

As was to be expected, the average milk and butter-fat production was also reduced, being 3,246 lb. milk and 134 lb. butter-fat per cow. These figures stress the necessity for the conservation of water and fodder wherever practicable. It is obvious that unless adequate feed and water are provided, herdtesting and better breeding cannot make any appreciable improvement in the production of a herd.

Of the 6,530 cows which made up the 239 herds tested, 3,246 completed their lactation period. In all 14,888 tests were made.

The best butter-fat production was recorded in North Queensland, where 37 herds gave an average production per cow of 172 lb. butter-fat. This represents an improvement of 15 lb. butter-fat over production records of last year and gives some indication of the value of testing, when other conditions are favourable. In this particular district, the drought was not felt to the same extent and, consequently, the benefit of testing was much more evident than in other less fortunate centres.

On the Darling Downs the number of herds under test dropped from 73 to 32, a decrease which is directly attributable to the trying seasonal conditions. In spite of these adverse conditions, however, the best individual figures were recorded in this district, one herd of thirteen cows at Oakey averaging 277 lb. butterfat; while a Clifton dairy farmer achieved the distinction of having the only cow to produce over 350 lb. butterfat for the season.

It was again a noticeable fact that those herds which have been tested consistently over a period of years have been less affected by the bad weather conditions than others in respect of which this practice has not been followed. This is due to several reasons, the most obvious being that the farmer who knows the value of his cows can, in bad times, concentrate on the best of the herd and not waste feed on animals which show little or no profit. Then again, the dairyman who is sufficiently progressive to test his herd is generally progressive in other directions—such as conserving fodder for the inevitably recurring lean year.

The assistance of dairy associations was again made available during the year, 117 herds being tested by the following associations:—

Caboolture	26
Chinchilla	4
Downs	13
Killarney	3
Logan and Albert	9
Maleny	9
Oakey	5
Queensland Farmers	13
Southern Queensland	14
Wide Bay	15

In addition, 51 herds were tested by dairy inspectors as follows:—

Wowan	9
Bundaberg	3
Mundubbera	2
Atherton	24
Daintree	13

The remainder, 71 herds, were tested by the herd recording staff at Brisbane.

With prospects of a better season in the coming year, and with the wider recognition by dairy farmers of the practical value of testing, it is anticipated that herd recording will be made use of to a much greater extent. It must be realised that herd recording is an essential factor in the development of the dairying industry, and until it has become an integral part of dairy management on every farm progress must necessarily be slow.

HERD RECORDING.

District.	Number of Herds Tested.	Number of Cows Tested.	Number of Tests.	Cows completed Lactation.	Average Yield of Milk.	Average Yield of Butter-fat.	Number of Cows yielding from 0 to 99 lb. Butter-fat.	Number of Cows yielding from 100 to 149 lb. Butter-fat.	Number of Cows yielding from 150 to 199 lb. Butter-fat.	Number of Cows yielding from 200 to 249 lb. Butter-fat.	Number of Cows yielding from 250 to 299 lb. Butter-fat.	Number of Cows yielding from 300 to 349 lb. Butter-fat.	Number of Cows yielding from 350 to 400 lb. Butter-fat.	Number of Cows yielding over 400 lb. Butter-fat.
					Lb.	Lb.								
					DARLING DOWNS.									
Toowoomba	4	115	247	61	2,301	100	33	24	4	..	..	..	..	..
Clifton	4	83	120	14	5,764	238	..	1	4	2	5	1	1	..
Dalby	5	130	179	14	2,495	98	9	4	1	..	..	..	..	..
Oakey	5	157	300	85	4,878	189	3	21	26	18	15	2	..	..
Chinchilla	4	59	77	..	..	..	..	..	..	..	..	..	..	..
Killarney	3	..	..	33	3,718	142	8	10	11	3	1	..	..	..
Warwick	6	150	340	65	3,768	153	11	21	19	11	3	..	..	..
Downs—Sundries	1	22	22	..	..	..	..	..	..	..	..	..	..	..
Total	32	716	1,285	272	..	..	64	81	65	34	24	3	1	..
Average	..	..	..	..	3,817	153	..	..	..	..	..	..	..	..
					MORETON DISTRICT.									
Beaudesert	9	320	763	172	3,403	129	36	93	39	3	1	..	..	..
Esk	7	234	436	153	3,260	122	39	86	26	2	..	..	..	..
Booval	4	96	105	38	3,532	131	8	19	10	1	..	..	..	..
Boonah	3	32	67	26	2,971	123	6	14	5	1	..	..	..	..
Grantham	3	40	71	6	2,988	120	3	1	2	..	..	..	..	..
Rosewood	2	..	..	31	3,084	148	1	15	15	..	..	..	..	..
Laidley	1	..	..	7	1,738	66	7	..	..	..	..	..	..	..
Kingston	14	402	973	225	3,165	131	49	115	44	14	3	..	..	..
West Moreton	18	763	2,151	416	2,866	121	135	187	82	9	1	2	..	..
Total	61	1,887	4,566	1,074	..	..	284	530	223	30	5	2	..	..
Average	..	..	..	..	3,097	125	..	..	..	..	..	..	..	..
					WIDE BAY.									
Caboolture	19	408	520	188	2,750	117	76	66	36	10	..	..	..	..
Pomona	5	100	124	28	3,175	144	3	15	6	4	..	..	..	..
Eumundi	2	31	58	..	..	..	..	..	..	..	..	..	..	..
Maleny	9	330	667	214	3,396	151	25	74	86	26	3	..	..	..
Gympie	15	387	886	225	2,776	115	79	110	30	6	..	..	..	..
Total	50	1,256	2,255	655	..	..	183	265	158	46	3	..	..	..
Average	..	..	..	..	2,988	128	..	..	..	..	..	..	..	..

HERD RECORDING—*continued.*

District.	Number of Herds Tested.	Number of Cows Tested.	Number of Tests.	Cows completed Lactation.	Average Yield of Milk.	Average Yield of Butter-fat.	Number of Cows yielding from 0 to 99 lb. Butter-fat.	Number of Cows yielding from 100 to 149 lb. Butter-fat.	Number of Cows yielding from 150 to 199 lb. Butter-fat.	Number of Cows yielding from 200 to 249 lb. Butter-fat.	Number of Cows yielding from 250 to 299 lb. Butter-fat.	Number of Cows yielding from 300 to 349 lb. Butter-fat.	Number of Cows yielding from 350 to 400 lb. Butter-fat.	Number of Cows yielding over 400 lb. Butter-fat.
					Lb.	Lb.								
						BURNETT.								
Mundubbera	2	6	6	8	2,678	98	3	5	..	..	..	..	..	..
Kingaroy-Nanango	14	526	1,519	223	3,350	131	35	124	57	7	..	..	..	..
Gayndah-Biggenden	7	330	767	147	3,008	124	35	81	27	3	1	..	..	..
Monto	4	85	167	39	3,598	147	1	20	17	1	..	..	..	..
Total	27	947	2,459	417	..	..	74	230	101	11	1	..	..	..
Average	..	..	..	..	3,240	129	..	..	..	..	..	..	..	..
						CENTRAL.								
Bundaberg	3	68	183	22	1,842	73	21	1	..	..	..	..	..	..
Gladstone	11	292	706	94	2,616	112	32	54	7	1	..	..	..	..
Rockhampton	9	266	791	166	2,856	119	49	89	22	4	1	1	..	..
Wowan	9	166	453	139	3,248	139	28	57	38	14	2	..	..	..
Total	32	792	2,133	421	..	..	130	201	67	19	3	1	..	..
Average	..	..	..	..	2,879	122	..	..	..	..	..	..	..	..
					NORTH QUEENSLAND.									
Atherton	24	825	2,083	407	4,061	172	27	121	148	74	30	7	..	..
Daintree	13	107	107	..	..	..	..	..	..	..	..	..	..	..
Total	37	932	2,190	407	..	..	27	121	148	74	30	7	..	..
Average	..	..	..	..	4,061	172	..	..	..	..	..	..	..	..
					SUMMARY OF HERD RECORDING—Year 1936-37.									
Darling Downs	32	716	1,285	272	3,817	153	64	81	65	34	24	3	1	..
Moreton	61	1,887	4,566	1,074	3,097	125	284	530	223	30	5	2	..	..
Wide Bay	50	1,256	2,255	655	2,988	128	183	265	158	46	3	..	..	..
Burnett	27	947	2,459	417	3,240	129	74	230	101	11	1	..	..	..
Central	32	792	2,133	421	2,879	122	130	201	67	19	3	1	..	..
North Queensland	37	932	2,190	407	4,061	172	27	121	148	74	30	7	..	..
Total	239	6,530	14,888	3,246	..	..	762	1,428	762	214	66	13	1	..
General Average	..	..	..	..	3,246	134	(23·475 per cent.)	(43·992 per cent.)	(23·475 per cent.)	(6·592 per cent.)	(2·033 per cent.)	(0·4 per cent.)	(0·003 per cent.)	..

REPORT OF THE DIRECTOR OF PLANT INDUSTRY (RESEARCH).

I submit herewith a report of various activities for the twelve months ended 30th June, 1937. During that year a scheme of reorganisation was under consideration and this was indicated by the alteration of my designation from that of Chief Entomologist to Chief Entomologist and Director of Research as from 1st July, 1936. Reorganisation plans for the formation of a Division of Plant Industry (Research) were completed late in the year, and my designation was altered further to that of Director of Plant Industry (Research) as from 1st July, 1937. The 1936-37 departmental year accordingly has been one of transition, in so far as officers engaged in plant industry research are concerned, and for that reason my annual report differs very considerably from that of previous years. I deal in a general way with the activities of the various officers associated with me, at the end of June, 1937, and a more detailed discussion of entomological, plant pathological, pineapple and general horticultural research activities has been left to Messrs. J. H. Smith, J. H. Simmonds, H. K. Lewcock and W. A. T. Summerville, respectively. The reports of these officers are attached hereto.

STAFF.

Mr. A. W. S. May, who was employed temporarily on entomological work, returned to the University of Queensland at the beginning of the new academic year in order to complete his degree course. The vacancy created by his return to the University was filled by Mr. A. A. Ross, who has interrupted his academic training in a similar manner for a period of about fourteen months. Mr. Ross is stationed in the Stanthorpe district as an assistant to Mr. K. M. Ward, Assistant Research Officer, and is engaged on entomological and general horticultural research projects. Mr. K. M. Ward joined the departmental staff in October, with headquarters at Stanthorpe, where he is investigating horticultural problems. Mr. E. W. B. Da Costa and Mr. H. M. Groszmann joined the department in April of this year, the former being stationed in Brisbane and the latter at Nambour. Mr. Da Costa is engaged on plant physiological problems associated with the production and canning of pineapples, while Mr. Groszmann is investigating general horticultural problems in the same crop. Mr. D. J. Lee was appointed during the year under review to work exclusively on cotton pests in the Callide Valley, but he will not enter on his duties until the middle of September. Miss Barbara Shield joined the staff to work on biometrics; and is at present pursuing post-graduate studies thereon at Canberra, in association with officers of the Council for Scientific and Industrial Research. Mr. W. A. Smith, who was formerly engaged on clerical work, was appointed a cadet during the 1936-37 departmental year. Mr. W. Pont was responsible for clerical work in the division for most of the year.

Mr. Hubert Jarvis, who had been engaged for many years on entomological investigations in the Stanthorpe district, was transferred to Toowoomba at the beginning of May, and Mr. J. H. Smith was transferred from Nambour to Brisbane to pursue his entomological investigations at the latter centre.

ENTOMOLOGICAL INVESTIGATIONS.

The transfer of Mr. Jarvis to Toowoomba from Stanthorpe and the appointment of Mr. Lee, whose headquarters will be at the Research Station at Biloela, have added two to the list of entomological field stations, investigational work now being carried out with headquarters at Brisbane, Stanthorpe, Toowoomba, Nambour, Rockhampton, Biloela and Atherton. These, of course, are merely the centres at which the research officers have their laboratories, and much of their investigational work is carried out at other centres in their districts. The policy of decentralisation of research and experimental work therefore has been pursued extensively in the case of entomology. It is felt that such a policy brings the research officers into intimate contact with their problems and with the farming community they are serving. It furthermore achieves a very desirable degree of contact such as should exist between the research and the field advisory staffs of the department.

As already indicated, Mr. J. H. Smith will deal with the results of the year's entomological activities in some detail, but the following important developments seem worthy of mention at this juncture.

Very promising results have been obtained with potash soft soap as a codling moth insecticide, a most important point in this development being the fact that potash soft soap compares not unfavourably with arsenate of lead in so far as price is concerned. The banana thrips investigation is being wound up, and the satisfactory results achieved therein will be available for publication at an early date. Fumigation experiments for the control of tuber infestation by the potato tuber moth were completed, and here again the results are being written up for early publication. White grub investigations on the Atherton Tableland proceeded satisfactorily on the lines laid down, and much useful information has been obtained. An important development in the investigation of corn ear worm in cotton is the possibility of the swabbing of a trap crop effectively controlling infestation originating within the cotton field. The investigation of forestry pests was pursued again intensively and much progress was made. This work now is financed entirely by the Forestry Sub-Department.

The action of the Queensland Cotton Board in making available funds for the appointment of an officer to work exclusively on cotton pests is appreciated. Mr. Lee is the officer selected for this work, and, as mentioned previously, will be stationed at Biloela, in the Callide Valley.

PLANT PATHOLOGICAL INVESTIGATIONS.

The plant pathological investigational work has been carried on with Brisbane and Toowoomba as its permanent centres. The establishment of the Toowoomba field station late in the previous departmental year has been productive of definitely beneficial results, and the Toowoomba laboratory now is well equipped. Mr. R. B. Morwood, the Research Officer at that centre, is devoting much time to the investigation of various cereal diseases on the Darling Downs and in the Maranoa. His transfer to Toowoomba brings him closer to the Stanthorpe district and he has been responsible for the whole of the plant pathological experimental work therein during the year under review.

The year's activities are reviewed in the report submitted herewith by Mr. Simmonds, and it indicates marked progress in quite a number of investigations.

The benzol vapour treatment for the control of blue mould of tobacco is discussed in the report; and, in connection therewith, it is interesting to note that under North Queensland conditions the use of colloidal copper may be desirable still for the control of this serious tobacco disease. The suggested use of both the colloidal copper spray and the benzol vapour in the one seed bed is interesting. A gratifying development was the success achieved in field experiments for the control of squirter by dipping the fruit. Definite progress was also made with the field experimental work on the control of brown spot of the Emperor mandarin.

Tomato pathological investigations were again pursued by Mr. J. E. C. Aberdeen and here appreciation must be expressed of the action of the Other Fruits Sectional Group Committee and of the Rural Credits Branch of the Commonwealth Bank in subsidising this work.

PINEAPPLE INVESTIGATIONS.

Prior to 1936, the pineapple investigational work carried out by the Department of Agriculture and Stock was concerned mainly with the elucidation of pathological problems, the most serious of which was the disease known as pineapple wilt. The investigation of this disease showed that the susceptibility of a pineapple plant to wilt was determined very largely by environment. Control measures therefore were devised with the object of increasing disease resistance by providing more favourable conditions for plant growth.

The success which attended the general application of the pineapple wilt control practices directed attention to the need for a more comprehensive investigation of the cultural and nutritional problems of the crop. The first step in this direction was taken early in 1936 with the allocation of Mr. L. G. Vallance, of the Agricultural Chemist's branch, to soil problems relating to pineapple culture. Subsequently, contributions from the Fruit Industry Sugar Concession Committee, the Rural Credits Branch of the Commonwealth Bank, and the pineapple canners made it possible to appoint two additional officers, Messrs. Da Costa and Groszmann, to undertake research into other phases of pineapple production. Four officers were thus engaged on full-time research into pineapple problems during the latter part of the year under review.

In order to co-ordinate the work of these officers and thus permit of an effective approach to the problems confronting them, a long-range programme of work has been drawn up extending over the period for which financial assistance has been guaranteed, namely, five years. This programme entails five main lines of research, viz., physiological, pathological, genetical, cultural and soil technological, but the association of the various officers concerned necessarily remains a close one, as some of the major problems to be studied are too broad in their implications to be dealt with adequately by one investigator.

Mr. H. K. Lewcock has supervised the whole of the pineapple research programme and details of the work will be found in his report which is attached hereto.

As in previous years a subsidy was received from the Pineapple Sectional Group Committee to assist in financing the pineapple investigations.

GENERAL HORTICULTURAL INVESTIGATIONS.

As indicated in the preceding paragraphs, very satisfactory provision has been made for pineapple investigational work. The 1936-37 year also witnessed a considerable development in general horticultural investigations.

Mr. K. M. Ward assumed duty in the Stanthorpe district in October, 1936, his appointment being financed from funds made available from the Commonwealth Apple and Pear Grant. His investigational programme was approved and now is under way. The details of the programme are discussed in the attached report by Mr. Summerville. Mr. Ward shares the entomological laboratory at Stanthorpe, and appropriate equipment and literature have been provided for his use. His investigational work consists of problems associated with apple and pear production.

Mr. Summerville, on his return from overseas, proceeded to his old headquarters at Nambour and has since been engaged busily surveying the general horticultural position, and elaborating an investigational programme which will be submitted for consideration at an early date. Here again a considerable expenditure on appropriate literature has been incurred and a very good branch reference library is now available at Nambour.

Some attention was devoted also to the preparation of a horticultural research programme for consideration in connection with activities at the Bureau of Tropical Agriculture at South Johnstone.

The general horticultural investigational programme is only just getting under way, and accordingly it is not practicable to indicate any results that have yet been achieved.

LIBRARY.

A large number of accessions by way of exchange were received in the divisional library in Brisbane, and a number of important publications were purchased during the year under review. As already mentioned, considerable expenditure was incurred on horticultural literature for use at Stanthorpe and Nambour, and appropriate purchases were made also for other centres at which research officers are stationed permanently. These branch libraries are available to all departmental officers stationed at the various centres, and it should be practicable now to keep them up to date for a comparatively small annual expenditure.

ILLUSTRATIONS.

Mr. I. W. Helmsing was responsible again for the black and white and coloured illustrations prepared in connection with the activities of the division.

COLLECTION.

The care of the departmental entomological collection occupied once again a considerable proportion of Mr. Hacker's time. A new insect cabinet was provided, thus enabling a further transfer of insects from store boxes to the more attractive and safer insect cabinet.

SHOWS AND ADDRESSES.

Exhibits were staged at a number of country shows, and the usual contribution was made to the Departmental Court at the Royal National Exhibition. In addition to this several officers delivered a number of addresses at various country centres.

ADVISORY WORK.

As in previous years, advisory work for the general public and for other branches of this and other departments occupied a considerable amount of time.

CO-OPERATION WITH OTHER BRANCHES.

In quite a number of cases the investigational work of the division required the co-operation of officers of other branches. This was given freely and enabled the programme to be carried out on a much wider basis than would otherwise have been possible.

PUBLICATIONS.

A great deal of attention was devoted by Mr. Simmonds and myself to the preparation of one of the volumes of the proposed departmental handbook. This volume deals with pests and diseases of all crops other than sugar-cane, and the revision of the printer's proof was completed practically by the end of the departmental year. Another innovation was the initiation of a weekly news bulletin. This bulletin supplies advisory notes of interest and value to primary producers generally, and the country press as a whole has made extensive use of its contents. The bulletin fulfils another very useful purpose by supplying departmental officers as a whole with the latest views of their colleagues on a wide range of agricultural and pastoral problems.

Regular contributions were made to the "*Queensland Agricultural Journal*" as follows:—

1. The Tobacco-Growing Industry in the United States of America, by L. F. Mandelson.
2. Mushrooms. Their Cultivation, Diseases and Pests, by R. B. Morwood and J. A. Weddell.
3. The Species of Diplodia Affecting Forest Trees in Queensland, by H. E. Young.
4. White Grub Damage to Pastures on the Atherton Tableland, by J. H. Smith.
5. The Queensland Pine Beetle and Its Control, by A. R. Brimblecombe.
6. The Cotton Web-Spinner, by W. J. S. Sloan.
7. Seed Treatment of Maize, by R. B. Morwood and W. W. Bryan.
8. Citrus Diseases, by J. H. Simmonds.
9. The Grasshopper Outbreak in Queensland, 1934-35, by J. A. Weddell.
10. Seedling Pests of Cotton and Their Control, by W. J. S. Sloan.
11. The Squirter Disease in Bananas, with Special Reference to Its Control, by J. H. Simmonds and R. S. Mitchell.

ROBERT VEITCH,
Director of Plant Industry (Research).

ENTOMOLOGICAL INVESTIGATIONS.

For the most part, the research programmes of the several field stations during the past year have been interfered with only to a small extent by serious outbreaks of pests which are normally of minor importance. The allotted projects therefore have received a considerable amount of attention, and the following summary deals with both the scope of the work and the progress made in the more important investigations.

CODLING MOTH.

The need for an adequate substitute for lead arsenate as a control for codling moth, *Cydia pomonella* L., constitutes an important problem. The lead arsenate spray schedule, though reasonably efficient, not only leaves undesirable residues on the fruit, but apparently is also a contributing factor in producing leaf scorch in the Stanthorpe district. The study of non-arsenicals therefore has been intensified, and a series of trials conducted by Mr. Hubert Jarvis have shown very promising results during the past year. A number of non-arsenical sprays have been investigated since 1932 in connection with this and other pests. A series of the more promising were used last year for specifically codling moth control purposes. Of these, colloidal sulphur-nicotine sulphate, nicotine sulphate-white oil, potash soft soap and colloidal sulphur-potash soft soap all gave a degree of control approximating to that produced by lead arsenate. Potash soft soap is particularly interesting, for its cost is comparable with that of lead arsenate. Insecticides as toxic as lead arsenate to the codling moth are not uncommon, but the cost of application has been prohibitive in most cases. If further trials, which will be carried out during the coming year, confirm the value of potash soft soap, a considerable step forward will have been achieved. A further advantage of potash soft soap is that colloidal sulphur can be added conveniently to the spray when necessary for the control of such troubles as powdery mildew and red mite which are the source of considerable loss in deciduous orchards.

BANANA THRIPS.

The investigation of banana thrips, *Scirtothrips signipennis* Bagn., was more or less completed during the year, and the results are being prepared for publication. Apart from one or two plantations, losses have not been serious, but it should be noted that the pest has been recorded recently in a few districts in which it previously was unknown. There are few parts of coastal Queensland which now can be declared positively to be thrips free.

Although damage from banana thrips rust has not been excessive, the pest doubtless will recur in plague proportions at some future date. The control measures elucidated by Mr. N. E. H. Caldwell now are available, and growers, at least in Southern Queensland, will be in a happier position than hitherto, when the next serious outbreak occurs. Briefly, these control measures require bunch protection by means of hessian bags of a specified quality which cover the bunch shortly after its emergence, and remain in position until the bunch is cut. A high quality nicotine dust also is applied at fortnightly intervals to the fruit. Normally six dustings will be necessary, but recent studies indicate that four dustings at weekly intervals after the bunch is thrown, in addition to bagging, may give adequate control under normal conditions. Costs of treatment are not excessive, provided that banana prices are remunerative and plantation management to ensure control is quite practicable.

The banana silvering thrips, *Hercinothrips bicinctus* Bagn., continues to be of minor importance to the industry as a whole, though fruit wastage on one South Coast plantation was considerable.

Fruit Sucking Moths.

Previous outbreaks of the fruit sucking moths, *Othreis fullonica* L. and *Argadesa materna* L., have been so sporadic that it has been exceptionally difficult to study control measures in detail. Fortunately, Mr. Caldwell was able, during the year under review, to keep in reasonably close touch with orchards on the North Coast which were being attacked, and some control measures recommended in other countries were investigated. These require the use of poisoned fluid baits distributed through the orchard in suitable containers, but so far they unfortunately have proved of little value here. These results are contrary to expectations, and still require detailed analysis. At all events, the 1936-37 year's experience permits a restatement of the problem to simplify the designing of an experimental programme which can be initiated immediately when moths are plentiful in the future.

Citrus Leaf Eating Weevil.

The citrus leaf eating weevil, *Eutinophoea bicristata* Lea, continues to be destructive in North Coast citrus areas. Insecticidal trials were initiated last spring, using both arsenicals and non-arsenicals. Results have been difficult to assess, owing to the heavy leaf and fruit drop during the summer, but the work quite clearly indicated that the life history of the pest must first be elucidated before any considerable progress can be expected. There apparently are one or more mass emergencies of adults each year from immature stages spent in the ground, and a spraying programme must be timed to coincide with these. These emergencies can be appreciated only in a life history setting, and further empirical work on insecticides therefore will be associated with life history studies, which can be expected to place control measures on a more rational basis.

White Wax Scale.

The white wax scale, *Ceroplastes destructor* Newst., has been rather serious in some citrus orchards during recent years, possibly because the sulphonated oils widely used for the control of some other species are of little value for this pest. Recent experiments have confirmed earlier work by Mr. Summerville, and there can be no doubt that control can be obtained by the judicious use of either washing soda or resin-caustic soda-fish oil sprays. In practice, when a mixed scale population infests citrus, a resin-caustic soda-fish oil spray which is reasonably effective against both the white wax and other scales should be applied in the autumn.

Fruit Fly.

Fruit fly, *Chætodacus tryoni* Frogg., has been less destructive than usual this year. Under some conditions strict orchard hygiene supplemented by the use of the ammonia-vanilla lure is quite adequate, but in citrus areas supplementary measures may be necessary. Bait sprays may meet requirements, but their value is difficult to check experimentally. Work on bait sprays has been included in the Stanthorpe programme for some time, but arrangements have now been made to permit further investigations at any of the southern field stations where the pest may be active during the coming year.

Grasshoppers.

The plague grasshopper, *Chortoicetes terminifera* Walk., was troublesome in various parts of the State during the year, principally on the Darling Downs and in the Brisbane Valley. Cereal and fodder crops occasionally were destroyed by either adult or hopper swarms between October and March, and the autumn generation was responsible for very heavy egg-laying in various districts. Mr. J. A. Weddell, assisted at various times by Messrs. May and Jarvis, kept in touch with developments, and he reports that the egg-beds are sufficiently extensive to warrant some anxiety as to hopper emergence in the coming spring. Egg parasites, particularly *Scelio fulgidus* Crawf., were active, and both these and other natural controls should help to keep the pest in check.

A considerable amount of advisory work has been carried out in connection with the control methods which are applicable to the more closely settled areas where the pest is most destructive. Farmers and graziers now possess the necessary information to enable them to cope with possible outbreaks in the spring.

Another species, *Phaulacridium gemini* Sjost., was a pest of irrigated tobacco in the Texas district last November. The control problem is complicated by continued migration to the tobacco plants from adjacent grasslands which are more or less dried out in the spring months. This wingless grasshopper need not be numerous in order to cause considerable damage in both the seed-bed and the field. Arsenical sprays or baits, therefore, are not particularly effective, but it is possible that suitable mechanical barriers may be useful in excluding the pest from the seed-beds and, perhaps, also from the plantation.

WHITE GRUBS.

During the late spring of 1935, a short, though heavy flight of the Scarabaeid, *Lepidiota caudata* Blkb., took place in parts of the Atherton Tableland. White grub pasture destruction during 1937 therefore was severe, and the position has been aggravated by a sub-normal rainfall, insufficient to stimulate the normal wet season growth of pasture grasses.

As economic control can be obtained only by agricultural methods, the problem is being studied from the cultural angle. The chief difficulty has been to devise a suitable cropping system to precede pasture re-establishment, but recent work carried out by Mr. D. O. Atherton in conjunction with the White Grub Investigations Committee appointed in 1935, shows considerable promise. Apparently maize failures in the past are attributable largely to nutrient deficiencies, and if these can be remedied economically the position should be much more hopeful, for, under Tableland conditions, maize is indispensible for stock-feeding purposes during the dry winter and spring months. If maize, fed either as grain or ensilage, bulks largely in the ration a cheap protein supplement is desirable. An attempt has been made therefore to increase the value of the ensilage by growing the crop in association with various legumes. Rice bean possesses some value for this purpose, as when the two crops are sown at the same time, they can be harvested together when each plant is at the correct stage for conservation as ensilage.

Lucerne trials in which the manurial requirements of the plant and the appropriate bacterial inoculum have received consideration, indicate that, with proper treatment, this desirable crop can be grown profitably in some parts of the grub-susceptible country.

An elaborate series of pasture studies were initiated on a grub-infested property near Peeramon. Both winter and summer-growing grasses and legumes were sown on ploughed up pasture land; and, in spite of a rather difficult season which particularly hampered legume growth, a reasonable cover has been obtained. This experiment should yield very interesting information on the competitive status of various species in a mixed pasture and show their suitability or otherwise to this area. Rhodes grass has done exceptionally well so far and warrants more detailed study.

Towards the close of the year considerable numbers of white grub larvae succumbed to the attack of a bacterial disease. Though this has only a slight beneficial effect at the moment, it ensures a light, instead of a heavy beetle flight in early summer and correspondingly little trouble two years hence.

A similar pest, *Rhopaea* sp., has been responsible for some pasture damage on a few properties in the South Burnett. A recent survey indicates that the problem there is very much the same as that on the Atherton Tableland. Investigations at the latter centre should materially assist in the solution of comparable difficulties in other parts of the State.

CORN EAR WORM.

Owing to inadequate spring rains, the bulk of the cotton crop was planted at a relatively late date. Seedling losses consequently were of no great importance to the majority of the cotton growers. Unfortunately the early summer rains were unevenly distributed and some farmers who planted the crop late owing to the absence of adequate soil moisture suffered severely from pests bred upon adjacent farms where conditions permitted relatively early planting. As a result the corn ear worm, *Heliothis obsoleta*, F., was particularly troublesome on some properties, though over cotton districts as a whole, the losses were less than last year. Larval migration was of no importance. Investigations carried out by Mr. W. J. S. Sloan have been designed to determine the value of various insecticidal dusts and a modification of the maize trapping method in which a toxic swabbing mixture is applied to the trap crop. Though some benefit was derived from the dusts, their economic value is very doubtful, particularly in a wet season when frequent applications are necessary. Trap crop methods depend on the attraction of the corn ear worm moths to maize in preference to cotton for egg laying purposes. In practice, as originally devised with successive rows of maize interspersed through the cotton, they have proved unsatisfactory owing to the frequent failure of one or more plantings in the succession crops and on account of the common failure of farmers to sacrifice a maize crop, sown specifically for the purpose, as a means of minimizing corn ear worm losses in the more important cotton crop. A modification of the trap crop method in which the maize plants are treated with a swabbing solution containing lead arsenate, molasses and water has been developed and the current year's results are very promising. The swabbing mixture kills the bulk of the larvæ on the maize and as a result, a good crop can be retained for grain, while a poor crop ceases to be a potential danger to the cotton. More extensive work on this subject will be carried out next season.

OTHER PESTS OF COTTON.

Two minor pests, the cotton looper, *Antarchæa chionosticta* Turn., and the cotton leaf perforator, *Bucculatrix gossypii* Turn., were more troublesome than usual and control measures were sometimes necessary, particularly in backward crops. Either an arsenical dust or a diluted form of the lead arsenate swabbing mixture applied as a spray proved quite adequate. The importance of these pests depends on the type of cotton bush. In small plants the associated leaf injury can be definitely harmful; in bushy plants possessing an excess of vegetative growth, partial defoliation may open up the plant and facilitate maturation of the bolls and minimize the amount of boll rot in the bottom crop.

The rough boll worm, *Earias huegeli* Rozenk., caused some damage to the central shoot of the plants but injury to squares, flowers and bolls was overshadowed by the more destructive corn ear worm. Crops grown near ratoon or standover cotton invariably suffer most severely from the rough boll worm, and though there are other important reasons, this should be sufficient to dissuade farmers from tolerating either ratoon or standover cotton.

Other pests of cotton, such as jassids, aphids, and cotton-stainers, were perhaps less important than in the previous year.

PASTURE MITES.

An unusual type of malformation in couch grass was reported from Toogoolawah and other districts in August. Multiple budding was characteristic and appeared to be stimulated by two mites, *Eriophyes* sp. and *Sideroptes* sp., which were feeding on the plants in considerable numbers. In acute cases the grass was temporarily killed back to ground level. The injury is very similar to that attributed to *Eriophyes tenuis* in Western Australia.

FOREST PESTS.

Owing to damage caused by the hoop pine weevil, *Aesiotes notabilis* Pasc., which is a source of considerable trouble in young stands of hoop pine, Mr. A. R. Brimblecombe has suspended, temporarily, his investigation of white grub losses in the forest nursery and plantations at Yarraman to permit detailed studies of this pest.

The hoop-pine weevil attacks the young trees at saw cuts incidental to pruning operations designed to procure the maximum amount of first-grade timber in the stand. Life history studies initiated in the laboratory already show that preconceived ideas as to the habits of the pest require some modification. Supplementary field observations have provided data on the abundance of the insect at different periods of the year and should be of value in determining the most suitable time for pruning. If practical considerations prevent the restriction of this operation to periods when the pest is more or less inactive, further attention can be given to stub treatment with various insecticides which will ensure immunity to attack until natural healing gives protection to the trees. Several insecticides promise to be useful for this purpose, but the costs of treatment must be reduced if such measures are to be practicable.

This investigation should be completed in the near future, and white grub studies then can be resumed. Considerable progress had been made in elucidating the life history and habits of the more important species of white grubs prior to the temporary cessation of the work. Control work applicable to forestry requirements therefore can be initiated shortly, and some suggestive possibilities are being examined in detail.

Any available time has been given to the study of pests such as Calymmaderus, which attack structural timbers, with a view to improving existing control measures.

ILLUSTRATION WORK.

Mr. I. W. Helmsing has been fully occupied during the year in a variety of activities. A number of plates have been prepared to illustrate technical publications issued during the year, some new exhibition cases have been arranged and others have been reconstructed to meet current requirements.

Requests from technical officers of the Animal Health Station and the Department of Public Health for either illustrations or photomicrographs have been acceded to so far as practicable.

INSECT COLLECTION.

In addition to his apiary work, Mr. Hacker has been able to work through part of the very valuable insect collection rearranging the material to facilitate ready reference.

ADVISORY WORK.

Advisory services are the joint responsibility of the officers stationed at the various field stations and at Head Office. The thorough study of any crop which is incidental to the investigation of its associated pests ensures the practicability of any information supplied to the individual farmer or orchardist.

J. HAROLD SMITH, Entomologist.

PLANT PATHOLOGICAL INVESTIGATIONS.

This report of the plant pathological work during the year 1936-37 deals mainly with research activities. A considerable volume of routine advisory work also has been carried out; but is of too miscellaneous a character to be included here. The report is based largely upon information submitted by the officers concerned in the particular investigations, and their names have been associated here with the discussion of the work.

CEREALS.

Cereal experiments carried out by Mr. R. B. Morwood, Research Officer, during the past season, included seed treatment and varietal susceptibility trials. Three commercial brands of copper carbonate, one of copper oxychloride, and six mercury preparations were tested against a standard copper carbonate for the control of wheat bunt in plots located at Roma and Nobby. With seed lightly contaminated, all of them gave good commercial control. When used on heavily infested seed, three of the mercury dusts were inferior to copper carbonate, one apparently was equal and two were significantly better. The copper dusts did not differ appreciably from one another.

In order to bring the wheat variety susceptibility trial up to date, twenty named varieties and departmental crosses were tested for resistance to flag smut and bunt. The seed was inoculated artificially, and varieties known to be susceptible or resistant were used for comparison. Plots were laid down in two localities, namely, Roma and Toowoomba. An interesting feature was the resistance to bunt shown by a number of the crosses involving Florence or College parentage, although the selections had not been made on this factor. As the infection even in the susceptible check was not as high as might have been desired, this work is being repeated and extended this season.

TOBACCO.

Field experiments and demonstrations carried out largely by the officers of the Agricultural Branch have shown that the vapour method of preventing blue mould attack in tobacco seed beds is of general application under Queensland conditions. However, in those areas where leaf spot (*Cercospora nicotianae*) is likely to be serious, it is doubtful whether it would be advisable to substitute this method for the colloidal copper spray previously used. During the past season leaf spot was particularly prevalent and there were many instances in which crops planted with seedlings from sprayed beds were much freer from this disease than those produced from gas-reared seedlings. Possibly in the areas referred to, the use of the colloidal copper spray supplemented by gas during wet periods may be the best procedure to adopt.

In order to reduce the initial cost of the vapour treatment, preliminary experiments were carried out to find a suitable dressing for the calico of tobacco seed bed covers. It was shown that it is not necessary to increase the translucency or gas tightness of the calico under Queensland conditions. Several methods for preventing discoloration, due to mildew, were investigated. Two of these proved reasonably satisfactory and directions for their use are to be published in the "Queensland Agricultural Journal" for August, 1937.

A leaf spot which gave some concern in the south-western districts was identified by Mr. F. W. Blackford, Assistant to Research Officer, as that due to *Phyllosticta nicotianae*. This diagnosis was later confirmed by Dr. F. A. Wolf, North Carolina.

BANANA.

In the realm of banana diseases the transport rots received most attention. Mr. R. S. Mitchell, an officer of the Council for Scientific and Industrial Research, seconded for service with the Department of Agriculture and Stock, summarised his work on black end and anthracnose, before terminating his association with this department. It is hoped to incorporate his extensive report in a Council for Scientific and Industrial Research bulletin at some future date. It would appear that the practical control of this disease will have to be along cultural rather than fungicidal lines. Frequent trashing of the plants and careful handling and selection of the fruit for marketing are amongst the most important points for the grower to consider. Mr. Mitchell was able to demonstrate an interesting fact in connection with stem end rot caused by *Thielaviopsis paradoxa*. The strain of this fungus found on diseased bananas in Queensland is distinct from the one attacking pineapples and sugar cane and the two last mentioned crops therefore are not a source of contamination for the banana. A discussion of the evidence on which this conclusion is based appeared in the Journal of the Council for Scientific and Industrial Research, X, 2. 1937.

Good control of squirter (*Nigrospora sphaerica*) was obtained in field experiments by the immersion of the fruit, as soon as the hand had been broken into singles, in a 1 per cent. suspension of Shirlan AG. It is hoped that this procedure will provide the practical control for which there has been urgent need for some time.

CITRUS.

Mr. Blackford, on his appointment, took over the citrus work previously handled by Mr. L. F. Mandelson. A further spraying trial was carried out at Howard in connection with the control of brown spot of the Emperor mandarin. Earlier results indicating the efficacy of colloidal copper (1 gallon stock solution to 13 gallons of water) were confirmed. Five different schedules were used. Trees sprayed in September, October, December and late February yielded an average of 3.1 per cent. diseased fruit compared with 31.1 per cent. in the controls. Those sprayed in September, November and late February were only slightly more heavily affected, and this shorter schedule is probably the more practical under the circumstances. The substitution of a Bordeaux spray did not prove any advantage.

PINEAPPLES.

Mr. E. W. B. Da Costa, Assistant to Research Officer, who is a member of the pineapple research team, has investigated the organisms associated with brown speck and finds that a species of *Penicillium* and one of *Fusarium* are commonly present—frequently in association with other organisms. He will endeavour to prove the etiological relationship of these various organisms and ascertain the factors leading to infection in the field.

PAPAW.

The severe drought experienced during the latter half of 1936 resulted in the rather alarming development in papaw plantations of a dieback of the crown. A general yellowing of the foliage accompanied by the death of some of the younger leaves and a shallowly depressed brown lesion at the tip of the stem were the most pronounced symptoms. It is considered that this was due to excessive transpiration caused by hot, drying winds at a period when soil moisture was particularly low. Many of of the affected trees developed healthy side shoots when growing conditions improved. Similar symptoms have been noted when a partial root rot, following excessive rain, has produced artificial drought conditions.

During the early part of 1937, the virus disease, yellow crinkle, was very prevalent in most districts and considerable losses resulted. After its initial outbreak this disease appeared to return to the normally quiescent state. Growers have been advised strongly to use eradication measures to combat this disease; but a knowledge of the insect vector is necessary before recommendations for control can be placed on a scientific basis.

Ascochyta caricae, *Gloeosporium sp.* and an undetermined fungus have been shown by inoculation and reisolation to be capable of causing the common ripe rot of the fruit. So far no satisfactory control of these forms of decay is available.

PASSION FRUIT.

This year an abnormal and rapid spread of the virus disease known as woodiness occurred even in plantations where the disease had been kept in check previously by strict eradication and disinfection measures. It appears essential for the satisfactory control of this disease that steps be taken to ascertain the nature of the insect vector.

DECIDUOUS FRUITS.

As in the past, the work on deciduous fruits has been handled by Mr. Morwood. The opening of the field station at Toowoomba has proved a distinct advantage in the carrying out of these and cereal investigations.

In last season's powdery mildew experiments lime sulphur, colloidal sulphur, and sulphur suspension all controlled the disease to a satisfactory extent. Lack of vigour in the trees is considered to influence the severity of the disease. Of the various fungicides tried, colloidal sulphur will prove probably the most useful.

Preliminary investigation of the apple little leaf problem by twig injections gave indications of a beneficial result from zinc. More extensive trials are now under way in co-operation with Mr. K. M. Ward, Assistant Research Officer, who is engaged on apple and pear horticultural investigations.

A spraying trial for the control of bacterial spot of plums also was undertaken. Although the disease was not sufficiently serious to differentiate between the various schedules used, the experiments definitely confirmed the earlier results—namely, that Bordeaux mixture will control the disease.

Previous experiments with grape anthracnose have shown that the use of the dormant sulphuric acid-iron sulphate swab is unreliable, and have indicated that Bordeaux sprays during the early part of the growing season are more important. An experiment using seventeen different schedules was designed with the object of ascertaining the most effective times at which to spray. Unfortunately, the incidence of the disease was too light for definite conclusions to be drawn.

TOMATO.

Mr. J. E. C. Aberdeen, Assistant to Research Officer, has restricted his attention to diseases connected with this crop. At the outset a considerable amount of time was devoted to a survey of the position, an outcome of which was the recording, for the first time, of an outbreak of bacterial canker (*Aplanobacter michiganense*). The practical control of this disease was investigated and suggestions placed before the growers.

Owing to the large sums spent on fungicides for controlling Irish blight, it was deemed advisable to initiate experiments to ascertain the most economical and yet efficient of the various fungicides and schedules at present in use. Three plots were laid down, the main objects in view being to compare the relative merits of copper sprays and dusts when used on staked or unstaked plants, and to test the efficiencies of colloidal copper and Bordeaux mixture of various strengths. Final results of this experiment will not be available until later in the year.

Preliminary work has been undertaken in an attempt to elucidate the Fusarium wilt problem. The so-called wilt resistant varieties are being tested against strains of *Fusarium* isolated from various districts in the hope that the reason for the many anomalous reactions of these varieties may become apparent and more definite information be available regarding the best ones to recommend.

VEGETABLES.

Mr. Blackford has investigated in some detail a wilt which has for several years been causing considerable loss to pumpkin growers. By isolation and inoculation experiments the disease was shown to be due to a species of *Fusarium*. Infection is possible from both seed and soil contamination, and a preliminary field trial of the value of seed treatment indicated that a mercury dust, such as Ceresan, may reduce losses.

During the past season an attempt was made to inaugurate a bean seed certification scheme in which Mr. Morwood co-operated by carrying out the necessary pathological examination. Unfortunately, owing largely to meteorological factors, this scheme did not meet with the success it deserved.

As usual, a large proportion of the routine enquiries centred about vegetable troubles. The fungus *Sclerotinia sclerotiorum*, which was recorded for the first time only a few years ago, appears to be increasing in importance.

FORESTRY.

The main line of activity of Mr. H. E. Young, Assistant Research Officer, in connection with forestry problems has been the furthering of his investigations into the fused needle disease of *Pinus spp.* Interesting results were obtained by supplementing the organic ration of the trees. In this connection a number of fertilizer trials have been laid down and observation plots have been continued. The root grafting of diseased and healthy trees gave negative results.

A number of mycorrhiza forming fungi, chiefly belonging to the genus *Boletus*, were introduced from overseas. Seed of several exotic *Pinus spp.* was sown and infected with these and local organisms under sterile conditions. It is hoped that the differential growth will indicate whether the mycorrhiza formers existing in Queensland are the best available.

Further investigations into the root rot of plantation trees in North Queensland has shown that the fungus *Fomes pachyphloeus* is associated definitely with the disease. Observation plots have been laid out.

The causal agent of the leaf cast disease of Kauri pine (*Agathis palmerstoni*) when isolated proved to be a new species of *Hendersonula*. This fungus is being further investigated in the laboratory.

A number of nursery troubles were dealt with. Several soil disinfectants were tested for the control of damping off and root rotting fungi in hoop pine nurseries and cheshunt mixture was finally recommended. Maple seedling gall is being investigated in Brisbane. The causal agent is thought to be a bacterium. A laboratory examination was made of the effect of sulphur bacteria on two nursery soils.

The value of the opossum as an agent in the control of mistletoe on timber trees was investigated further with results which showed that the marsupial is an important agent in the control of the pest.

J. H. SIMMONDS,
Senior Research Officer.

PINEAPPLE INVESTIGATIONS.

During 1936-37, research into problems affecting the pineapple industry has dealt chiefly with cultural aspects of disease control, nutritional and physiological studies, and investigations of soils. Towards the end of the year the programme was extended to include intensive research into (*a*) physiological disorders of pineapple fruits and (*b*) plant selection problems. This report records the progress which has been made with these various lines of research during the year under review.

The Use of Acetylene to Induce Flowering.

From research conducted in Hawaii it has been found that when a saturated solution of acetylene gas in water is applied to the hearts of pineapple plants under favourable conditions, it will cause them to flower within six or eight weeks from the time the treatment is applied. This method of regulating the flowering period of pineapple plants would appear to possess considerable practical value not only for providing increased supplies of fruit for fresh consumption during between-crop periods, when supplies are normally inadequate, but also as a means of reducing seasonal disease losses in fruit intended for canning purposes by advancing the harvesting period of such crops to a time when the incidence of fruit disease is normally at a minimum.

Experiments to test out the efficacy of the acetylene treatment under Queensland conditions were carried out between September, 1936, and May, 1937. The results of these field experiments indicate that, owing to seasonal conditions, response to the treatment is likely to be uncertain if it is applied before the middle of September or after the middle of March. Applications made between these months have been consistently 90 to 100 per cent. effective in inducing flowering within six to eight weeks. Moreover, applications made as late as the middle of April have given 80 to 90 per cent. positive results, but in these late applications the interval between treatment and flowering is lengthened considerably, averaging twelve to fourteen weeks. The results from May applications have been wholly inconsistent.

Despite the inconsistency of the late autumn applications, however, the acetylene treatment probably will be found to meet most requirements under Queensland conditions. Plants treated during early November have been found to mature their fruit during May, when supplies are normally inadequate, while it appears probable that the November-December shortage can be successfully met by treating plants early in March. Apart from ensuring a continuous supply of fruit for fresh consumption, however, the acetylene treatment should also prove valuable in the production of pineapples for canning. Well-grown plants, ten to twelve months old, if treated during October, may be expected to mature full-sized pineapples during the following April, Under normal conditions, the fruit from thoese plants would not ripen until July or August. Consequently, advancing the flowering period of such plants is likely to result both in a marked improvement in fruit quality and in the virtual elimination of black heart and similar winter fruit diseases, since the fruit would mature under more favourable seasonal conditions.

The trials already conducted have provided data on which preliminary recommendations for local conditions can be based, although a few points regarding the best methods of application still require to be cleared up. The method employed in carrying out the field trials is not suitable for general use, and the development of a simpler, safer, and more efficient method has been receiving consideration for some time. It is hoped that details of this method can be made available shortly.

Response to Potassic Fertilizers.

In co-operation with the Pacific Potash Company, trials were laid down at Palmwoods at the end of 1934 to determine the effect of potassic fertilizers on pineapples planted in a soil markedly deficient in potash. The plant crop from these trials was harvested during the winter and spring of 1936. When tabulated, these first crop returns clearly indicated that potash, whether applied in the form of sulphate or muriate, exerts a pronounced effect on fruit yield. In the case of sulphate of potash an increase in yield amounting to 147 per cent. was obtained over plants receiving identical amounts of nitrogen and phosphoric acid but no potash. Part of this yield increase was attributable to the greater number of fruits harvested from the potash-fertilized plots due to the fact that a large percentage of the potash-starved plants failed to flower, but an even more notable response to the use of potash was the marked increase in the weight and size of individual fruits. While no distinguishable difference in the rate of growth during the first twelve months was noted between plants receiving sulphate and muriate of potash in the fertilizing mixture, the yield from the sulphate plots was appreciably greater than it was from the muriate plots. Consequently, where pineapples are grown in soils known to be or suspected of being deficient in potash, the use of the sulphate form is recommended.

Inorganic v. Organic Fertilizers for Pineapples.

With the co-operation of Messrs. A.C.F. and Shirley's Fertilizers Ltd., a series of replicated plots were laid down in November, 1935, to test the relative merits of organic and inorganic forms of nitrogen and phosphoric acid for fertilizing pineapples. These trials were discontinued at the end of twelve months, by which time the plants had passed through the critical phase of their development, because the results up to that stage of growth were so overwhelmingly in favour of the inorganic forms of these two fertilizer ingredients that little further confirmation could have been obtained by prolonging the trials. The substitution of inorganic nitrogen and phosphoric acid for organic forms of these constituents in pineapple fertilizer mixtures has entailed revolutionary changes not only in the proportions in which these constituents were at one time compounded, but also in traditional methods and times of applying fertilizers to pineapples. Long established practices usually are not amenable to sudden change, but the rapidity with which the Queensland pineapple industry has adopted the use of quick-acting inorganic fertilizer mixtures, and the recommended methods of applying them, is in itself a testimony to their efficacy.

CORRECTION OF IRON DEFICIENCY BY MEANS OF SULPHATE OF IRON SPRAY.

While the actual quantity of iron required by pineapple plants for their proper growth and development is very minute, a deficiency in the supply of this essential element results in a serious disarrangement of the metabolic processes and leads to dwarfing, susceptibility to disease and chlorosis. In the case of most Queensland pineapple soils it has been found that an adequate supply of iron in an available form can be maintained by the use of sulphur. In some soils, however, particularly highly buffered manganiferous types, the use of sulphur for increasing iron availability is impracticable for economic and other reasons and plant requirements for this element have to be met by spraying the foliage with a solution of sulphate of iron. In certain districts such as Dagun and Amamoor in the Mary Valley, the application of iron to pineapple plants in this manner has been a standard practice for a number of years, but the sprayings have been carried out only at long intervals, usually about twice a year. Recent experiments at Amamoor indicate that a very pronounced increase in vigour of growth can be obtained on manganiferous soils by spraying at much more frequent intervals, viz., every three or four weeks, particularly during the winter months when root activity is reduced by the lowered soil temperatures. Furthermore, experiments on sulphured soils in other areas indicate that, except on mulched soils, iron spraying of pineapple plants may be advisable in Southern Queensland generally during the winter months when soil conditions are unfavourable for root development, even though an adequate supply of soil iron is available. Plants grown in paper mulch have not exhibited the same symptoms of iron deficiency during the winter as those set out in exposed soil, indicating that mulched soils are not affected by seasonal conditions to the same extent as are exposed soils.

SUBSTITUTION OF IRON FILINGS FOR SULPHATE OF IRON SPRAY.

Monthly sprayings with sulphate of iron solution entail an annual expenditure for materials of, approximately, ten shillings per acre. With the methods at present employed, however, the cost of applying the spray amounts to nearly four times the cost of the materials. An experiment has been conducted to determine whether half-yearly applications of iron filings to the hearts of young pineapple plants could be substituted for monthly sprayings with sulphate of iron solution since, if effective, such a method would result in a considerable saving in labour costs. At the end of June, however, plants which had received iron filings five months previously were stiffer leaved, spiky in habit and markedly retarded in growth compared with adjoining plants which had been treated with iron sulphate spray, although they did not exhibit the iron deficiency symptoms which were evident in unsprayed plants grown in the same soil. It is considered that the unsatisfactory results obtained from this experiment may have been due partly to impurities in the iron filings used and the experiment will be repeated.

FIELD DEMONSTRATIONS OF WILT CONTROL METHODS.

During the spring and early summer, ten plots, demonstrating cultural methods for the control of pineapple wilt, were laid down in various representative plantations between Caboolture and Gympie. Six of these plots were located on land which had been cropped previously with pineapples. The average area of each plot was one-third of an acre. Owing to drought conditions the planting of all the demonstration plots took place much later than was anticipated and two of them were not completed until early in January.

Both in the planting procedure and in the subsequent cultural treatment, emphasis was laid on those methods which have been found to promote a vigorous, disease-resistant type of growth such as can be relied upon to give maximum returns. In short, an endeavour has been made to demonstrate under actual plantation conditions that wilt control by cultural methods is not merely practical, but that it also results in a considerable reduction in production costs, despite an apparent increase in working costs. Under the system of planting employed for these plots, plant populations were increased from the traditional 6,000 per acre to slightly more than 15,000 per acre. While this entails a marked increase in the cost of planting, fertilizing and harvesting when computed on an acreage basis, the cost per plant for these and other operations, e.g., weeding and cultivation, is considerably less than it is on sparsely planted fields. It is anticipated, however, that the increase in acreage returns obtained as a result of closer planting will exceed greatly that due solely to the greater number of fruit harvested, since the more vigorous type of growth promoted by improved fertilizing and cultural methods should result in a corresponding increase in the size and weight of individual fruit.

The methods of soil preparation, planting and fertilizing have been essentially the same in all the demonstration plots, although minor modifications have been introduced in several of them to take care of variations in soil and climatic conditions. The basic plan for all these plots involved:—

(1) Adequate preparation of the soil.
(2) Correction of the soil reaction through the use of sulphur.
(3) Grading of planting material.
(4) Shallow planting of suckers, if used.
(5) Close planting to obtain conservation of soil moisture and reduced weed growth through shading.
(6) Adequate and systematic fertilizing.
(7) Shallow inter-row cultivation only to avoid root injury.

Whether these cultural practices will achieve their objectives completely—namely, a practical control of wilt and a demonstrated reduction in production costs—will not become fully apparent for another twelve months or longer. However, the general growth status of the plants on all but one of these plots at the present time suggests that the crop returns from them will exceed greatly those obtained by old-style cultivation methods under similar soil and climatic conditions. This applies particularly to those plots which are located on land that had been cropped with pineapples previously.

TRIALS WITH PAPER MULCH.

In three plots, one at Palmwoods and two at Beerburrum, several rows were planted in paper mulch. Mulch was not used on any other of the plots because further supplies were then unobtainable in Queensland. However, a shipment of this material has been landed since, and it will be possible to undertake further trials with it during the coming planting season. The plots at Beerburrum were selected for the preliminary trials with paper mulch because of the low water-holding capacity of their soils due to a marked deficiency in humus. In spite of the fact that the laying down of the mulch had to be delayed until early in January, owing to drought conditions, its value in promoting growth through the maintenance of soil moisture has already been well demonstrated, even under the extreme conditions existing in the Beerburrum soils. From the beginning, all the plantings which were made in mulch have maintained a much faster and more steady type of growth than the adjoining check plantings in exposed soil, and these growth differences have become more marked with the drop in mean temperature consequent on the approach of winter. The effect of paper mulch in maintaining soil conditions favourable for root activity and replacement during the winter months has been especially well demonstrated by the colour and texture of the foliage of plants grown in it, indicating an accelerated absorption of soil nutrients, particularly iron.

FIELD EXPERIMENTS AT BOWEN.

During the latter part of January an inspection was made of pineapple plantations in the Bowen district with a view to drawing up a programme of field experiments. No experimental work on pineapples had been carried out in this district previously, despite the fact that the crop has been grown there on a fairly extensive scale for more than twenty years. Through the co-operation of the Director of Fruit Culture much of the experimental programme which was mapped out in January has been put into effect already. Field plots have been laid down to investigate the value of the following cultural practices under Bowen conditions:—

1. Conservation of soil moisture by closer planting supplemented by the use of paper mulch.

2. Ridging of the soil prior to planting to obviate water-logging during the rainy season.

3. Plant selection to eradicate undesirable types, hereditary in character, which are exceedingly prevalent in Bowen plantations to-day.

4. Correction of unfavourable soil reaction by the use of sulphur.

5. Correction of iron deficiency in established plantations through the use of sulphate of iron spray.

6. The use, in an approved manner, of quick-acting water soluble fertilizer mixtures.

7. Grading of planting material as an aid to uniformity in fruiting.

8. A demonstration of the effect of parental vigour on rate of growth of planting material.

In planning these field trials consideration was given to the fact that Mr. Kajewski, of the Fruit Branch, would have to supervise personally all the operations entailed in laying them out and, consequently, the work was confined to four farms all within relatively easy access of his headquarters at Bowen. An inspection of these experiments was carried out at the end of June. Although it was too early then to form an opinion as to the ultimate value of these trials, it was evident that results could be expected from them which would have a far-reaching influence in improving cultural methods in the Bowen district. The benefits accruing from closer planting, correction of soil reaction and adequate fertilizing in the early stages of growth, are already demonstrated clearly, and these practices are being rapidly adopted by growers throughout the district. The value of mass selection methods for eradicating undesirable plant types and of clonal selection for fixing superior strains will not be apparent until the plants have fruited. However, striking growth differences were apparent already in the comparative test being made with respect to planting material from vigorous stock, and that from ill-nourished plants, and it is anticipated that these differences will be accentuated as the test progresses.

It is proposed to extend the experimental programme in the Bowen district during the coming twelve months.

SOIL INVESTIGATIONS.

During the whole of the year under review, Mr. L. G. Vallance, Assistant Research Officer, has been engaged continuously on investigations into pineapple soils. Three months of this period was spent in the soils laboratories of the Waite Agricultural Research Institute in Adelaide.

SOIL BUFFER CAPACITY AS A QUANTITATIVE INDICATOR OF SULPHUR REQUIREMENTS.

Earlier work has shown that the productivity and disease resistance of pineapple plants is largely conditioned by the reaction of the soil in which they are grown. Correction of the soil reaction through the use of sulphur is practised generally at the present time throughout the pineapple-growing districts of this State. However, some uncertainty in the use of this soil treatment has arisen from the fact that data has been lacking which would provide a basis for an accurate estimation of the quantity of sulphur required to bring about a desired change in reaction in any given soil. Following an investigation of this important economic problem, Mr. Vallance has been able to show that a good correllation exists between the sulphur requirement of a soil as indicated by a laboratory determination of its buffer capacity and the actual change in its reaction obtained under field conditions by an application of sulphur based on such laboratory data. From this work, it is anticipated that a simple method can be devised whereby the sulphur requirements of pineapple soils may be determined in the field with accuracy and rapidity.

Soil Buffer Capacity in Relation to Iron Availability.

Further investigation has shown that iron availability in pineapple soils may be conditioned largely by buffer capacity. The data obtained indicates that iron present in a soil with a low buffer capacity can be made available to pineapple plants by suitably adjusting its reaction, while it cannot be so released in a highly buffered soil. Since one of the chief advantages to be gained from correcting the reaction of a pineapple soil is an increase in the availability of its iron content, it follows that the efficacy of sulphur treatment on any given soil may be predicted from a consideration of its buffer capacity.

Test for Nitrates in Pineapple Leaf Tissues.

Control of the nitrogen supplied to pineapple plants is essential to the obtaining of maximum yields. Such control is dependent on the frequent determination of fluctuations in the nitrate content of growing tissues. Some attention has been given to the devising of a simple colour test for making such determinations in the field. It has been found that differentiations of high and low nitrate concentrations in leaf tissue can be made by means of diphenylamine, but further investigation is necessary to determine whether this or any similar reagent will prove satisfactory and reliable when used as a spot indicator under field conditions.

Soil Survey of Pineapple-Producing Areas.

As a basis for recommendations on fertilizing, sulphuring, and cultural practices, and for further research on other soil problems appertaining to pineapple culture, a beginning has been made on a soil survey of the principal pineapple-producing districts. This survey is being carried out in considerable detail, and the data obtained from it should prove of permanent value.

Field work connected with the survey of the Beerburrum-Glasshouse Mountains-Beerwah district has been completed, but some time will elapse before all the laboratory data arising out of this portion of the survey has been compiled and collated. When this is done, however, it is propose to extend the survey to the Palmwoods-Woombye-Nambour area, and, ultimately, to other districts.

The detailed mapping of soil types which a soil survey entails gives such work an immediate practical value. In the Beerburrum-Glasshouse Mountains-Beerwah district, four main soil types have been recognised. It has been found that the heaviest type, which has been preferred always for pineapple culture in this area, is confined chiefly to the ridges, and is podsolized less strongly than the lighter soils of the adjoining lower levels. Under the older methods of cultivation, in which emphasis was laid on the use of slowly-acting organic fertilizers, the higher natural fertility of these ridge soils endowed them with better lasting qualities, and this explains the preference for this type. However, modifications in cultural methods based on a knowledge of the physical and chemical characteristics of the various soil types and their underlying strata should enlarge greatly the area over which pineapple culture might be carried out profitably in these districts. This is exemplified clearly by the results now being obtained from experimental plots on low-grade land in the Beerburrum district.

Miscellaneous Soil Work.

In addition to the investigations outlined already, Mr. Vallance has assisted other pineapple research projects and extension work by carrying out a large number of soil analyses and pH determinations. With the methods now available for the rapid determination of soil pH in the field, it is considered that routine work of this kind may be left safely to the extension staff in order to permit Mr. Vallance to devote more of his time to important research problems.

Fruit Diseases.

Next to soft rot or "water blister," for which effective control measures already are available, the most important diseases of pineapple fruits in Queensland are black heart and brown speck (fruitlet core rot). Seasonal fluctuations in the occurrence of these diseases, as well as other considerations, indicate that their incidence is determined largely by physiological causes. Since April, Mr. E. W. B. Da Costa, Assistant to Research Officer, has been engaged in studying these diseases from this aspect.

It has been ascertained that the occurrence of black heart is associated with abnormally low sugar concentration, but it has not been possible to establish any such correlation in the case of brown speck. The latter disease apparently is not due to any specific pathogen, however, as a variety of micro-organisms have been isolated from affected tissues in different fruits. The work has not yet progressed far enough to indicate factors predisposing to infection.

Plant Selection.

Since his appointment on 1st April of this year, Mr. Groszmann, Assistant to Research Officer, has been engaged in making a survey of the plant types occurring in selected pineapple plantations in the Nambour district, preparatory to undertaking an intensive programme of plant selection work. The data already obtained shows that a considerable diversity exists in regard to both the vegetative and fruit characteristics of individual pineapple plants grown in this area. If not definitely objectionable, a large percentage of these different plant types must still be regarded as inferior and their hereditary character seems to be indicated by the fact that certain "off" types have been found to occur much more frequently in some plantations than in others. Investigation of mass selection methods for the rapid elimination of obviously unprofitable types and of clonal selection methods for the development of superior strains would appear to be well justified by the preliminary data obtained.

General Activities.

During April, 1936, I was sent to Hawaii to investigate and report on the pineapple industry in that country, and I returned from this mission about the middle of August. The special circumstances surrounding my visit to Hawaii made it necessary, on my return, to devote a considerable amount of time to instructional duties. Seventeen lantern lectures and fifteen field days have been held in various pineapple-growing centres during 1936-37, and requests for more of these gatherings have had to be deferred for a time. In addition, a large number of individual plantations have been visited in connection with pathological enquiries, but so far as possible enquiries on purely cultural matters have been referred to the field officers of the Fruit Branch who have been delegated to handle this aspect of the work. The valuable services rendered by these officers is being appreciated increasingly as they become better known to growers.

In company with Mr. Barnes, Director of Fruit Culture, I was delegated to undertake a survey of the pineapple-producing possibilities in North Queensland, and this work occupied the whole of my time during June, 1937.

During 1936-37 donations of fertilizers for pineapple experiments were made by Messrs. A. C. F. and Shirley's Fertilizers, Ltd., Messrs. Fertilizer Distributors, Ltd., The Committee of Direction of Fruit Marketing, Messrs. Nitrogen Fertilizers, Ltd., and the Pacific Potash Company. The generosity of these firms has contributed materially to the carrying out of the year's research programme.

H. K. LEWCOCK,
Plant Pathologist.

GENERAL HORTICULTURAL INVESTIGATIONS.

From the beginning of the period under review until the end of January, 1937, I was engaged in studying horticultural research in the United States of America, Hawaii, New Zealand, and New South Wales. My reports submitted at various stages throughout that time show that I was able to study at first hand many aspects of horticultural work, including practical orcharding and the methods and manner of research in horticultural science.

Deciduous Fruit Investigations.

In October, the receipt of funds from the Federal Apple and Pear Grant made possible the appointment of an Assistant Research Officer to work on problems of the apple and pear in the Stanthorpe district. Mr. K. M. Ward was appointed to this position, and for the first three months this officer was engaged in making himself familiar with the district in which he was to work and in a preliminary survey of its problems.

Immediately on my return the results of this preliminary work were discussed and a programme of research work was put into operation.

This programme, which now is well in hand, includes studies of the following points as they affect apple trees in the Stanthorpe district:—

1. Effects of lack of certain elements on the growth of trees. From this work it is expected that information will be forthcoming which will show to what deficiencies the trees in the district are prone and how any particular deficiency can be identified most readily and certainly. The basic work consists, firstly, in growing trees in a medium known to be lacking in a certain plant requirement; and, secondly, in following the results of tree injection in the manner developed by the East Malling Research Station.

2. Trials of complete fertilizer mixtures have been laid down on bearing and non-bearing trees. Some trouble was experienced in obtaining trees quite suited to our requirements in this experiment, but an adequate block has been found and the actual work on the trials is under way now.

3. To obtain information on the relative merits of a number of cover crops a further block was set out and planted. Owing to the very adverse season experienced this winter in Stanthorpe, the amount of information we obtain this year will probably be rather small.

4. Little leaf of apples has been causing Stanthorpe orchardists considerable concern, and there appears to have been an appreciable increase in this trouble during the last twelve months. A study of the problem is therefore under way, and in view of the similarity of the disease to a condition seen in the United States, the possible curative effect of zinc salts is being tested at once. Mr. R. B. Morwood, Research Officer, and Mr. H. StJ. Pratt, Senior Instructor in Fruit Culture, have also been interested in this problem.

5. From certain evidence it seems very probable that a large number of the trees in the Stanthorpe district, particularly of the Granny Smith variety, are suffering from a lack of boron and accordingly experiments have been commenced which should show whether or not this is the case and how the situation can be overcome most efficiently.

6. Preliminary studies of the soil types in the Stanthorpe area have been commenced with a view to making a classification which will simplify much of the work on soils.

7. During the winter months, in the little time available, Mr. Ward has been making observations on frost injury and other effects of low temperatures, but for this year at least, time will not permit of extensive enough studies being made to obtain sufficient information to lead to any conclusions on such matters.

8. With the coming of the spring growth, Mr. Ward will commence a study of fruit-bud formation which will eventually be linked up with the studies now being made of fertilizers and deficiencies and will, it is felt, yield valuable information which should place the fertilizer work in particular on a firmer basis than would otherwise be possible.

Tropical Horticultural Research.

On my return from overseas some weeks were spent at Head Office dealing with matters which were held over until my return and which for the most part arose out of that trip. Amongst these was the consideration of a plan of horticultural research work to be undertaken at the Bureau of Tropical Agriculture, South Johnstone. The recommendations included basic work on the papaw and exploratory work on the mango.

Survey of Horticultural Research Requirements.

On my return to Nambour a survey of our present knowledge in respect to horticultural aspects of the major fruits of the State, other than the pineapple, was made. In this way the gaps in our knowledge were brought out and from this plans were formulated for the research work to be initiated in the near future. As a corollary to this work, preliminary studies were commenced at once to determine points in laboratory technique, particularly with respect to nutrient solution and soil moisture studies. In this manner the way was paved for the commencement of the actual work early in the spring, and apparatus requirements were made clear.

Visits have been made to centres in the vicinity of Nambour for the purpose of selecting suitable experiment plots for work on passion fruit, citrus, Australian nut and papaw. Suitable places have been located for all the work planned on these crops.

Anatomical Studies.

Anatomical studies of the Australian nut and the papaw have been carried on with a view to learning something concerning vegetative propagation. The papaw will probably offer no very great difficulty but the Australian nut has an anatomy offering obstacles not very easy to overcome.

Papaw Seed Importations.

Papaw seeds from Hawaii, Florida, Ceylon and Java have been planted, but so far the germination has been poor. It appears possible that the necessarily severe disinfection to which these imported seeds must be submitted may affect the viability adversely.

Date Seed Importation.

Whilst in California I secured seeds of nine of the most promising varieties of dates. The Director of Fruit Culture, I understand, has planned to have a few of each of these seeds planted at Barcaldine and the bulk of the remainder will be raised at the Cotton Research Farm at Biloela.

W. A. T. SUMMERVILLE,
Entomologist.

REPORT OF THE SCIENCE CO-ORDINATING OFFICER.

During the past year the work of reorganisation and co-ordination of scientific and technical activities within the Department of Agriculture and Stock has progressed considerably. The general basis of organisation has been laid down after a very thorough survey and analysis of the requirements of the State. In this connection the main considerations have concerned the elaboration of an efficiently co-ordinated research and investigational service related, in its incidence on State development, to better and more effective utilisation of land and stimulation of production in those directions which offer greater social and economic expression to the potentialities of the State. This organisation is basic and, further, takes into consideration a plan of activities into which those of other organisations such as the Commonwealth Council for Scientific and Industrial Research, State Agricultural College, and University fit on a co-operative and co-ordinated basis, thus avoiding overlapping and, at the same time, serving the causes of efficiency, economy, and team-psychology. The definite limitations placed by financial, geographical, and intrinsically problematic considerations on Commonwealth activities impose on the State the necessity for a planned investigational campaign and, concomitantly, an extension and advisory service maintaining constant and close contact with scientific and research activities. In the development of such a plan special attention has been given to the need for co-ordinating all technical activities in such a way as to break down the idea of dispartite effort vested in independent branches. Only by so doing is it possible to attain the main objective of a Department of Agriculture and Stock and to develop an agricultural perspective.

The organisation foreshadows differentiation of the technical activities within the Department into the following divisions:—

(*a*) Division of Plant Industry (Research);
(*b*) Division of Animal Industry;
(*c*) Division of Soils;
(*d*) Division of Agricultural Industry and Commerce;
(*e*) Division of Extension Services and Agricultural Education.

This arrangement represents a *reductio ad minimum* in relation to differentiation of activities and takes cognisance of the fact and demand that the major constructive interests of the Department of Agriculture and Stock must relate themselves primarily to animal industry and the stimulation of increased production of animal commodities while giving attention to the needs of more effective land settlement, and more efficient land utilisation, and the necessity for relating agricultural production on an economic, more directly determined, and broader geographical basis to the needs of animal industry. Consequently the main pivots of research and investigation—scientific and economic—must be constituted by the following activities, organised on a constantly co-operative basis: (*a*) pastures and agricultural crops; (*b*) animal nutrition, and (*c*) soils.

The organisation indicated above has been designed to implement activities in those major directions. Such development, which must proceed slowly and adaptatively, cannot fail to enlist the aid and confidence of all who are concerned in increasing the output of first-class animal products from this State.

It has been possible to inaugurate one of these divisions immediately, namely, that of the Division of Plant Industry (Research), without involving the State in any immediate considerable increase of expenditure. Consequently, the Division of Plant Industry (Research) will operate from 1st July, 1937. This division will include the following activities:—

(*a*) Agriculture (Agronomy);
(*b*) Agrostology;
(*c*) Botany;
(*d*) Plant Physiology;
(*e*) Plant Breeding;
(*f*) Plant Pathology;
(*g*) Horticulture;
(*h*) Soils (pending the creation of a Division of Soils);
(*i*) Entomology;
(*j*) Biometrics.

It has been possible by the transfer of science officers from existing branches to make available a strong team of highly trained scientific workers to constitute the personnel of the division and, also, to ensure constant co-ordination of the varied sectional activities included within the operations of the division. Certain of these sections—notably those concerned with activities of a *protective* nature—are numerically much stronger than others in respect of personnel, and the plan of development now involves the building up of other sections concerned with *constructive* activities such as those of agriculture, agrostology, and soils. While *protective* measures to combat pests and diseases must always receive attention and have the backing of research and experimental efforts, *it is essential that a psychology which gives precedence to greater and more economic production must become dominant.* On the dominance and encouragement of this *constructive* outlook depends the future of the State and the aim of the organisation now being effected, is to give constant and concrete urge in that direction. The inauguration of the Division of Plant Industry working in close co-operation with existing branches such as those of agriculture and fruit culture renders possible a worthwhile survey of the potentialities of the State and an immediate concerted plan determined to realise those potentialities by adapting modern scientific procedure to the needs of the State. As exemplifying what is in view, reference may be made to the activities on which the Department is now zealously embarking with a view to stimulating young beef and fat lamb production for overseas and domestic markets and pig production for overseas markets, as well as assisting the dairying industry. In this connection the demarcation of our lands into breeding and fattening areas, the introduction of artificial pastures suited to the various climatic zones, the differentiation of fattening areas in relation to pastures and agricultural crops directed towards efficient animal nutrition, the adoption of farming methods in relation to pastures, and the consequent development of closer rural settlement and small holdings, more intensive agricultural production to meet the needs of animal production, conservation of fodder, universal utilisation of simple means for providing water on small holdings, and classification, conservation and improvement of soils—these represent problems which become immediately the major concern of the Division of Plant Industry (Research) in conjunction with the Agricultural Branch. It is important to the State at this juncture that these developments should be regarded as matters of extreme urgency in that they bear very directly on the future of the State—and the time factor is pressing. There is every reason to believe that these activities in close co-operation with those concerned with pastures and pasture plants under the aegis of the Council for Scientific and Industrial Research must, within a few years, place the State in an excellent position in relation to animal production.

The appointment of two biometricians ensures for the future a modern basis for the very varied experimentation work which will now be carried out under the direction and supervision of the Division of Plant Industry (Research). It is a significant feature in connection with the Division of Plant Industry that the senior officers in charge of individual sections are in nearly all cases men with overseas as well as Australian training, and their scientific interests are by no means limited to the particular section of activities with which they are engaged, thus ensuring a co-operative team effort in relation to problems which, in general, demand attack from many sides simultaneously. In short, the outlook of the division is definitely *agricultural*.

Gradually the organisation of a division of animal industry is proceeding, and should be completed before the end of 1937. The main interests here revolve around two nuclei, namely, animal protection and animal nutrition. Provision exists within the Department in both these directions, but building-up is necessary, and particularly in relation to animal nutrition. A considerable amount of important animal nutritional work has been carried out during the year, and has been very closely linked up with pasture experimental work, particularly in the tropical coastal areas. The activities now proceeding at Tully and at neighbouring loci in connection with the fattening of young beef cattle, have been organised on a basis which ensures the closest co-operation between scientific workers engaged in pasture investigations and animal nutrition. The organisation of a complete Division of animal industry will enable the planning of operations on a State-wide basis to be effected, and every incentive in that direction is now being exercised towards the extension of the type of work now being carried out at Tully to the whole of the coastal and neighbouring areas. The development of a division of animal industry must go hand in hand with the growth of the Division of Plant Industry.

The development of a division of soils has been left in abeyance, and in the meantime investigational activities in relation to soils have been included within the Division of Plant Industry. The recent appointment of a soil bacteriologist will help very materially towards developing the investigation of soils and the stationing of this officer in the Atherton Tableland will initiate systematic scientific work in connection with problems of a special interest, and will be of fundamental importance to the development of large areas on the Atherton Tableland. Of special interest in this connection is the cultivation of artificial pastures—grasses and legumes.

The important matter of soil erosion is receiving the attention of a committee representative of the Departments of Agriculture and Stock, Department of Public Lands, and the University. The plans of a preliminary survey of the State are under formulation.

It will thus be seen that while organisation is being effected the Department of Agriculture and Stock is attacking one of the major problems of Queensland in relation to animal industry by co-ordinated efforts focussed on pastures, animal nutrition, and soils. A complete plan of attack can only be implemented by the creation of divisions staffed with a full complement of highly trained officers. In this connection, apart from financial considerations, the problem of man-power becomes of paramount importance. The organisation that is being effected is helping to solve that problem to some extent by making available to the Faculties of Agriculture and Veterinary Science at the University of Queensland a knowledge of the projected plan of development of scientific activities within the Department of Agriculture and Stock. It is to be anticipated that the organisation will itself help to further overcome the problem of first-class man-power by indicating the possibilities of employment and the opportunity of carrying out researches in the interests of the State, thereby attracting to the service of the State, Queenslanders of outstanding ability and aptitude for scientific work. In this connection the co-operative efforts of the University of Queensland are being enlisted so that the Faculties at that institution will assist in every way in furthering the aims of Governmental policy.

The Department of Agriculture and Stock is fully conscious of the need that exists for a review of the methods which have been adopted up till now in relation to the utilisation of land for purposes of animal production. Far too little attention has been devoted to farming practice in this connection, and the tendency has been to develop our animal industries at the sacrifice of land which only too frequently is not adapted for the whole programme of activities associated with the production of first-class products. Ranch-psychology must give way to farming practice in the matter of fattening of beef cattle, and in this connection a demarcation of breeding and fattening areas is of fundamental economic and practical importance. It is recognised that a scheme of small holdings affords the best solution in relation to production of beef and fat lambs, and that, further, mixed farming should play a much greater part in the life of the State in relation to beef, fat lamb, and pig production than is the case at present. Underlying this necessary development is the need for scientific and experimental work which will lay the foundations of a structure economically sound. The encouragement of artificial pastures, better pasture management, rotational grazing, and more intensive agricultural production adapted to the needs of animal husbandry offers a solution for many of the problems of the coastal part and adjoining areas. Experiments carried out by the Department of Agriculture and Stock on the Atherton Tableland indicate the possibilities of fat lamb raising and the type adapted to such methods. The success of the beef export trade from Queensland, and especially that of chilled beef, is dependent on the production of animals not exceeding three years in age and of suitable quality. The quality of beef available on the domestic market demands appreciation of the same standard as that for export. It is considered possible to effect development in this direction by a complete review of existing conditions in relation to animal husbandry and by the strong development of the Divisions of Plant Industry and Animal Industry. Much of the beef now appearing on the domestic markets is suitable for canning, production of meat meal and fertiliser, and it is in this direction that stock now being used as beef should ultimately be utilised as younger beef is encouraged to replace it. These are problems which are being faced by animal nutrition investigations proceeding within the Department of Agriculture and Stock. In the same way it is necessary that fat lamb production should become a major objective and should play a greater part in our scheme of production for both overseas and home markets. In this connection the production of cross-bred lambs should be stimulated over large tracts of agricultural country which at present are not concerned in any such production. These exemplify problems towards the solution of which the organisation of the Department is being rapidly effected, thus implementing a constructive and developmental policy.

The projected development of a division of agricultural industry and Commerce serves to indicate fundamental considerations bearing directly on the interests of the Divisions of Plant Industry and Animal Industry. Of major concern in this connection is the economic utilisation of the land. It is impossible to dissociate such problems as those of economic production, over-production, &c., from the responsibilities of any one of these three divisions. Among such problems now engaging the attention of the Department of Agriculture and Stock is that connected with the sugar-producing areas. Investigations are proceeding in the direction of determining the possibilities of the utilisation of land in the sugar areas for animal production. The possibility of producing forage-yeast on an economic basis has been thoroughly probed, but there are other aspects, such as those of a direct utilisation of sugar products, now receiving attention. The cattle-fattening experiments now proceeding in the tropical North will indicate the possibilities of land-utilisation for such purposes.

An extension of activities relating to young beef, fat-lamb, and pig production must be accompanied by development, *pari passu*, of facilities for the handling of such products. This will be essential in the interests of economic production, marketing, and quality of product. It has been necessary at this early stage to direct attention to this problem, since stimulus towards increased production can hardly be effective unless facilities obtain whereby it is possible to translate experimental results into sound economic practice. There is thus rendered necessary an exploratory attitude towards this aspect of production, and in that connection such activities as those projected for a division of agricultural industry and Commerce are now partly in train.

It will be seen that the organisation of the Department of Agriculture and Stock is being developed along the lines of a policy of gradualness, and that meantime the major problems of the State are being attacked along fundamental lines.

In these efforts the Department is being assisted very materially by the Queensland Meat Industry Board, which organisation has constantly manifested a desire to co-operate not only in connection with the linking of the activities of the Department with those at the Abattoir, but also in the direction of stimulating production on a better, more extensive, and on a wider geographical basis. A similar co-operative spirit is manifested by the Faculties of Agriculture and Veterinary Science at the University of Queensland, ensuring a constant liaison between that institution and the Department of Agriculture and Stock.

E. J. GODDARD.

REPORT OF THE AGRICULTURAL CHEMIST.

The samples received in the Chemical Division of the Department for analysis during the year ending June, 1937, are tabulated below.

——	1934-35.	1935-36.	1936-37.
Butters	551	446	489
Buttermilks	747	3	10
Bloods	..	125	..
Cheese	184	212	343
Dipping fluids	342	334	414
Fertilizers	78	123	188
Fruits, fresh	184	105	38
Fruits, canned, jams and preserves	12	13	18
Grasses, plants, seeds, &c...	159	166	85
Grasses, plants for hydrocyanic acid	62	14	35
Limestones, lime, &c. ..	18	29	49
Milks and other milk products	26	5	8
Nuts, Australian, Tung, &c.	..	11	..
Pest destroyers	104	105	165
Salts and stock licks ..	39	13	8
Sawfly investigation specimens	..	..	17
Soils and subsoils	164	256	191
Soil moisture determinations	2,400	2,496	2,304
Soils licked by stock ..	..	6	3
Soils for nitrate, pH, carbon, and mechanical analysis..	2,249	2,175	1,760
Stock foods	79	46	123
Tobacco	21	17	..
Waters	156	184	420
Wheats	216	40	19
Viscera and toxicological specimens	175	309	269
Veterinary medicines ..	..	2	10
Samples for Arsenic in Wool Commission	319	35	..
Miscellaneous	109	43	60
Totals	8,385	7,313	7,006

GLASSWARE TESTED, &C.

--	Received.	Approved.	Condemned.	Broken.	Per cent. Condemned.
Cream bottles ..	4,648	4,618	14	16	0·30
Milk bottles ..	1,404	1,376	28	..	1·99
Pipettes	2,121	2,063	40	18	1·88
Thermometers ..	863	767	81	15	9·38
Burettes	14	13	1	..	7·14
Totals ..	9,050	8,837	164	49	1·81

Two hundred and nineteen and one-half pints of iodine solution were prepared for the testing of cattle-dipping fluids, and 416 pints of N/10 alkali for testing milk acidity.

The number of graduated dairy glassware samples tested this year was practically double that of the previous year.

STAFF.

Mr. J. Pringle was transferred in March from the Bundaberg Sugar Experiment Station to this laboratory. Mr. L. G. Vallance spent three months of the year at the Waite Institute, Adelaide. During the first half of the year three members of the staff spent a considerable amount of time away from the laboratory owing to attendance at the University, and during the second half two members of the staff were similarly absent from the laboratory.

VISCERA AND TOXICOLOGICAL SPECIMENS.

Under this heading 269 samples were forwarded for analysis, of which 211 were samples of viscera and ingesta, and 58 were various toxicological samples. Of the 211 samples of viscera and ingesta, 76 samples—i.e., 36 per cent.—contained arsenic, one sample contained strychnine, and another an undetermined alkaloid.

Of the 58 toxicological samples, 23, or 39·6 per cent., contained arsenic, whilst 1 sample contained strychnine, 2 an undetermined alkaloid, 4 saponin, and 1 lead.

From this it is seen that of the 269 samples received, 99 contained arsenic, and this very high figure again indicates that greater care should be exercised in preventing stock from having access to any of the various forms of arsenical compounds used on the homestead.

CUSTOMS SAMPLES.

Eight hundred and sixty-four samples were received from the Commonwealth Dairy Produce Inspection Branch, of which 418 were butters for export, 67 butters competing for the Orient prize, 341 cheeses, 18 buttermilks and milk products, and the remainder were miscellaneous samples of chutney, preserved fruit, meats, &c.

SOILS.

The chemical analyses of soil samples submitted are given in Table I., and the mechanical analyses and physical properties in Table II. Asterisks in this table denote analysis by the old mechanical method.

There were 191 soil samples forwarded for the usual agricultural analysis, both by farmers and by officers of the Department of Agriculture and Stock and of other Departments, the analyses of the soil forwarded by the officers in the Departments being required by them in connection with the particular problems they were investigating.

As mentioned in my last report, Mr. Vallance, of this staff, has been deputed as Soil Chemist in a team of officers of the Department which had undertaken the investigation of the pineapple industry. During the past year it was arranged for Mr. Vallance to spend a period of three months at the Waite Agricultural Institute, South Australia, in order to study the methods adopted by the research officers of that institution in their investigation of soil problems. Since his return this officer has been engaged entirely in soil investigation work in the pineapple-producing areas of Beerburrum, Glass House Mountains, and Beerwah. The various soil types within these areas have been mapped in considerable detail, and some 80 soil samples from these districts have already been subjected to detailed examination in regard to replaceable bases, the carbon-nitrogen ratio, the available phosphoric acid, and further analyses of these samples are to be conducted. In connection with this soil survey, analytical work has been carried out with regard to the laying-out of pineapple demonstration plots. Pot tests to determine the buffer capacity of these soils have also been made, necessitating some 260 pH determinations, which have not been listed as individual samples. Also 120 determinations of pH were made for extension work in pineapple fields.

A large amount of soil work was undertaken on behalf of Mr. Wells, Director of Cotton Culture, who is investigating soil matters in regard to the effect of grass rotation upon the composition of cotton soils. This investigation was mentioned in last year's report, but it may be stated that such investigation will require to be carried over some years in order that the effect of varying climatic conditions may be taken into consideration. Included in this soil work it may be said that the nitrate-nitrogen content was determined in 1,200 soil samples, together with full chemical and mechanical analysis of a number of other soil samples.

GRASSES, SHRUBS, &c.

The number of grasses and plants forwarded for analysis for the purpose of ascertaining their food value for stock was less than the number received last year. These analyses are detailed in Table III.

Eighteen Rhodes grass samples were analysed to ascertain the value of Rhodes following cotton and following fallow, also to obtain information concerning the effect of the Rhodes growth on soil condition. These samples were submitted by the Director of Cotton Culture, who will report on this matter.

The analyses of two samples of grass hay appearing in Table III. are of interset. Sample No. 4890 was forwarded by S. L. Everist, Assistant to Botanist, from the Blackall district, the hay being composed mostly of Mitchell grass, whilst sample No. 5715 was forwarded by C. C. Barth, Stock Inspector, Longreach, and this sample was made twenty-seven years ago from natural grasses. Both samples have a similar protein content, the last sample containing more fibre and less lime and phosphoric acid than the other hay. It may be mentioned that a sample of bush hay analysed six years after the grass was cut, and the analysis given in the 1930 annual report of the Agricultural Chemist had practically the same composition as the hay first mentioned above. Much higher protein content in bush hay than found in the hays mentioned above has been reported, possibly owing to the fact that the hay was made when the grass was in the younger stages of growth, and in one case when *Stylosanthes mucronata* (Townsville Lucerne) was included with grass the water-free material of the hay was found to contain 14 per cent. protein.

In connection with stock foods, two members of the staff—J. M. Harvey and W. E. Hagger—have been deputed to perform the stock-feeding and chemical analysis required by Dr. M. White in connection with his investigation concerning the digestibility of stock foods, and in respect to this matter a certain amount of preliminary work has been conducted during the latter part of the year.

FRUITS.

As requests have frequently been made to the Department for information concerning the composition of fruits and fruit wastes, analyses of some of the fruits appearing on the Brisbane market were made. Analyses were of the edible portion, the seed, shells, and kernels, and in some cases the outside skin of the fruit. These analyses were published in the *Queensland Agricultural Journal*, April, 1937.

WHEATS.

From last harvest, Mr. Goodchild, Senior Instructor in Agriculture, forwarded 16 samples of wheat grown in the Rockhampton district.

The "specific protein quality" of the gluten of these samples was determined, and, as stated in last year's report, it is repeated that, considered from the gluten quality point of view, these wheats grown in the Rockhampton district are equal to wheats grown in other districts in Queensland.

GRAIN SORGHUM.

The Department has encouraged the cultivation of grain sorghums as an alternative to maize, particularly in the drier farming areas, and, to ascertain their feed value, some samples have been analysed.

The analyses given in Table IV. are of samples received from Roma, and were grown on the light typical soils of that district, which soils cannot be considered as rich agricultural soils. The three analyses of grain sorghums given in Table III. were on samples grown on soil typical of the black soils of the Darling Downs and Lockyer districts. The sorghum seed from Roma was freshly harvested and contained much more moisture than seed given in Table III., but if comparison is made on the water-free material it will be seen that the protein content of grain grown on poorer soils and under drier conditions is much lower than the grains grown on the richer soil. Thus the protein percentage in water-free grain from Roma was: Brown Yolo 7·4, Dwarf Pink 9·1, Wheatland Milo 7·5, whereas the protein percentage in the same varieties grown on richer soil was respectively 15·2, 14·4, and 14·0.

SAWFLY INVESTIGATION.

Arrangements were made for the conducting of different experiments in July, 1936, at Merrivale Station, Injune, in connection with this matter, but, unfortunately, owing to the fact that heavy infestation of sawfly grub and loss of stock occurred in some of the outlying areas, and as Mr. Penhallurick was forced to move a large number of stock from these areas to the paddock allotted for these experiments, they could not be conducted.

In collaboration with Professor Seddon, arrangements have been made for the carrying-out of experiments in connection with the sawfly during the next infestation, and Mr. Penhallurick has kindly agreed to meet the requirements of the Department in this investigation.

As Chairman of the Veterinary Medicines Board appointed under "*Veterinary Medicines Act of* 1933," the following is reported:—

The Board held 8 meetings; 570 medicines were registered and 75 are pending registration.

E. H. GURNEY,
Agricultural Chemist.

Table I.—ANALYSES OF QUEENSLAND SOILS.

Laboratory No	Locality.	Description of Soils.	TOTAL ELEMENTS IN THE SOIL, CALCULATED ON SOIL DRIED AT 100° C.									Available Plant Food, Soluble in 1 per cent. Citric Acid.				Total Elements. Lb. per Acre, 12″ Deep.				Available Plant Food, Soluble in 1 per cent. Citric Acid. Lb. per Acre, 12″ Deep.			SOIL ACIDITY.	Remarks.
							Soluble in Hydrochloric Acid. Sp Gr. 1·115.																PH.	
			Humus.	Combined Water and other Organic Matter	Chlorine.	Nitrogen.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Total Insoluble Matter.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Nitrogen.	Phosphoric Acid.	Lime.	Potash.	Phosphoric Acid.	Lime.	Potash.	Water Suspension 1 : 2	
			%	%	%	%	%	%	%	%	%	%	%	%	%									
	MORETON—																							
4154	Enoggera	g. b. s. silt	1·37	2·93	·011	·137	·29	·33	·23	·35	89·60	·1358	·0859	·0110	·0172	4,736	10,070	11,295	12,068	4,694	2,968	593	..	
4180	Landsborough ..	..	4·68	19·72	·006	·538	·46	·35	·39	·09	27·68	·0037	·1005	·0124	·0144	12,858	10,867	8,452	2,113	88	2,400	344	5·10	
4194	Maroochy River ..	br. l. ..	2·10	7·10	..	·202	·16	·90	·27	·86	71·70	·0048	·3100	·0455	·0164	6,151	4,842	27,500	26,310	146	9,441	499	7·00	
4195	Ditto	dk. buff l...	2·00	6·50	..	·198	·05	·17	·05	·12	80·10	·0018	·0962	·0184	·0103	5,922	1,555	5,026	3,589	54	2,878	308	6·90	
4196	Camp Mountain ..	lt. buff l. ..	·80	3·40	..	·216	·05	·07	·25	·84	84·00	·0024	·0170	·0061	·0128	7,400	1,747	2,432	28,780	82	582	438	5·20	
4197	Kiamba	lt. buff l. ..	1·50	5·60	..	·125	·03	·11	·12	·18	82·70	·0022	·0360	·0162	·0094	3,568	771	3,055	5,224	63	1,028	268	5·40	
4198	Upper Currumbin ..	dk. br. rd. l.	3·30	14·70	..	·363	·27	·11	·04	·17	35·90	·0007	·0515	·0132	·0154	11,550	8,558	3,564	5,312	22	1,638	490	5·40	
4199	Ditto	buff cl. l. ..	1·60	6·50	..	·177	·04	·08	·11	·57	73·30	·0010	·0248	·0084	·0115	5,292	1,286	2,426	17,200	30	741	344	5·10	
4200	Upper Mudgeeraba..	br. gr. cl. l.	1·95	6·99	·011	·240	·05	·16	·88	·93	78·38	·0042	·0646	·0129	·0130	7,162	1,564	4,691	27,830	125	1,927	388	5·60	
4201	Carrara	gr. br. cl. l.	1·51	6·33	·013	·211	·21	·49	·66	·28	75·05	·0111	·1664	·0237	·0081	5,658	5,602	13,164	7,562	297	4,470	218	5·80	
4202	Woombye	br. s. l. ..	2·37	2·24	·004	·079	·06	·04	·04	·04	88·34	·0084	·0256	·0067	·0101	2,927	2,252	1,501	1,501	315	961	379	7·00	
4205	Charlwood	lt. bl. l. ..	·89	4·67	·004	·105	·21	·76	·39	·26	79·29	·0275	·2093	·0388	·0163	3,460	6,852	25,010	8,565	901	6,869	534	6·30	
4206	Sandgate	br. bl. s. l...	2·14	4·96	·003	·251	·71	·86	·25	·11	85·14	·1841	·2782	·0331	·0073	8,428	23,986	28,784	3,814	6,186	9,344	248	6·20	
4211	Yarraman	br. ch. cl. l.	2·25	13·60	·013	·411	·26	·46	·20	·12	50·19	·0020	·3336	·0258	·0262	11,407	7,274	12,803	3,201	55	9,247	727	7·20	
4212	Ditto	ch. cl. l. ..	2·49	12·17	·008	·308	·24	·42	·19	·11	48·67	·0013	·2410	·0461	·0190	8,942	7,068	12,290	3,073	37	6,990	550	6·83	
4213	Murra Murra ..	br. rd. cl. l.	2·30	6·30	..	·163	·13	·26	·05	·14	71·40	·0027	·1954	·0290	·0160	5,407	4,346	8,692	4,545	89	6,482	531	7·80	
4214	Uplands N. Tamborine	ch. l. ..	3·64	16·91	..	·315	..	..	..	..	..	·0064	·0963	·0136	·0052	..	..	..	..	..	..	..	5·70	
4216	Kenilworth'.. ..	buff cl. l. ..	..	..	..	·111	·04	·06	·08	·36	85·2	·0026	·0340	·0227	·0104	3,562	1,283	1,861	..	83	1,092	..	5·40	
4222	Eight-Mile Plains ..	lt. gr. s. ..	·55	2·00	·002	·028	·02	·04	·04	·10	94·98	·0004	·0074	·0083	·0075	1,142	816	1,632	4,080	16	296	302	4·80	
4223	Ditto	gr. s. s. ..	·81	2·18	·002	·056	·01	·04	·03	·07	94·84	·0005	·0074	·0081	·0031	2,284	408	1,632	2,855	20	296	122	4·60	
4253	Mapleton	dk. br. s. l.	4·30	12·41	·010	·329	·25	·44	·27	·12	52·07	·0212	·1689	·0143	·0085	9,455	7,114	12,745	3,557	608	4,846	243	6·20	
4254	Flaxton	dk. rd .l. ..	4·42	16·76	·004	·446	·68	·38	·30	·13	31·33	·0076	·1587	·0561	·0190	12,395	18,911	10,474	3,491	212	4,408	527	6·30	
4255	Montville	dk. br. l. ..	5·39	16·38	·006	·447	·50	·43	·42	·12	37·90	·0418	·1221	·0042	·0062	12,395	13,966	11,929	3,201	1,161	3,390	172	5·60	
4256	Maroochydore Road	dk. gr. s. ..	1·69	1·45	·003	·062	·05	·11	·09	·10	95·42	·0178	·0405	·0164	·0013	2,613	2,108	4,637	4,215	746	1,699	55	5·70	
4257	Ditto	lt. br. rd. s. s.	·97	2·75	·003	·073	·18	·15	·09	·10	88·04	·0689	·0689	·0117	·0003	2,938	7,244	6,037	4,025	2,761	2,761	12	6·20	
4258	Buderim	dk. br. l. ..	4·27	15·97	·003	·404	·52	·26	·17	·09	36·29	·0122	·0180	·0210	·0075	11,232	14,549	7,274	2,619	340	3,561	209	5·80	

4265	Benarkin	lt. br. l. ..	3·24	9·89	·006	·240	·08	·09	·17	·07	64·55	·0070	·0710	·0110	·0070	7,831	2,610	2,936	2,283	228	2,316	228	5·40
4266	Ditto	lt. br. l. ..	3·44	8·40	·006	·280	·09	·09	·07	·05	65·80	·0070	·0650	·0180	·0060	8,526	2,740	2,740	1,523	213	1,979	183	5·36
4267	Ditto	lt. br. l. ..	3·43	9·71	·003	·250	·09	·16	·02	·05	64·45	·0070	·0750	·0060	·0060	7,749	2,789	4,359	1,550	217	2,324	186	5·55
4268	Ditto	lt. br. l. ..	3·17	10·76	·006	·240	·06	·10	·01	·05	65·15	·0020	·0780	·0080	·0060	7,439	1,859	3,192	1,550	62	2,418	187	5·46
4269	Ditto	lt. br. l. ..	3·29	8·98	·003	·30	·06	·06	·04	·05	66·50	·0030	·0190	·0070	·0060	9,380	1,876	1,876	1,626	94	281	187	5·42
4270	Ditto	lt. br. l. ..	3·17	10·65	·009	·27	·05	·09	·08	·05	67·70	·0030	·0690	·0170	·0060	8,149	1,495	2,716	1,569	90	2,082	181	5·33
4271	Yarraman	dk. br. l. ..	2·29	13·43	·006	·27	·23	·19	·07	·09	56·47	·0020	·1584	·0436	·0049	7,782	6,629	5,478	2,594	57	4,565	141	5·56
4272	Ditto	dk. br. l. ..	2·17	13·33	·009	·33	·33	·27	·18	·10	55·39	·0020	·1600	·0638	·0067	9,410	9,410	7,782	2,882	57	4,611	193	5·84
4273	Ditto	dk. br. l. ..	2·17	13·40	·009	·33	·25	·22	·09	·10	57·24	·0023	·1649	·0729	·0106	9,690	7,441	6,460	2,936	70	4,842	469	5·70
4274	Ditto	dk. br. l. ..	2·41	12·81	·006	·32	·29	·31	·13	·13	57·26	·0038	·2700	·0889	·0138	10,354	9,383	10,030	4,206	123	6,289	446	6·60
4275	Ditto	dk. br. l. ..	1·99	12·45	·003	·30	·28	·23	·07	·12	56·74	·0040	·2000	·0372	·0136	9,380	8,755	7,192	3,752	125	6,255	425	6·63
4276	Ditto	dk. br. l. ..	2·02	12·48	·006	·32	·27	·23	·12	·12	58·05	·0044	·1980	·0581	·0202	9,832	8,295	7,066	3,687	125	6,082	620	6·62
4289	Ditto	br. l. ..	3·50	8·60	·006	·27	·09	·21	·21	·13	67·30	·0040	·1070	·0390	·0180	9,031	3,010	7,191	4,549	133	3,579	602	6·02
4290	Ditto	br. l. ..	3·10	6·70	·006	·21	·06	·17	·15	·11	77·10	·0050	·1090	·0480	·0220	6,399	1,811	5,192	3,380	151	3,290	664	5·87
4298	Norwell, Yatala ..	gr. wt. s. ..	·65	·95	·003	·04	·03	·07	·29	·01	97·80	·0080	·0320	·0070	·0040	2,042	1,135	3,179	363	363	1,453	182	5·59
4299	Ditto	gr. s. ..	1·10	3·00	·007	·09	·02	·06	·12	·01	91·70	·0020	·0310	·0160	·0040	3,578	855	2,216	233	78	1,205	155	5·58
4300	Yarraman	ch. l. ..	2·31	10·40	·026	·25	·19	·26	·18	·10	61·90	·0020	·2080	·0850	·0190	8,462	6,455	8,864	3,412	67	6,957	635	7·54
4301	Ditto	ch. l. ..	2·95	13·30	·020	·32	·28	·59	·24	·13	47·80	·0020	·2870	·1070	·0150	10,117	9,068	18,771	4,072	64	9,131	477	8·25
4304	Beerwah	lt. s. s. ..	2·54	3·22	·005	·08	·02	·08	·09	·07	94·30	·0002	·0174	·0109	·0036	3,382	829	3,382	2,958	8	700	141	5·40
4305	Ditto	s. s. ..	1·60	1·02	·003	·05	·02	·14	·06	·06	96·64	·0002	·0045	·0096	·0030	2,026	575	5,064	2,129	10	220	146	4·80
4306	Ditto	lt. s. s. ..	1·84	1·65	·011	·06	·002	·07	·08	·05	95·80	·0007	·0185	·0145	·0033	2,429	74	2,650	2,074	27	729	130	5·70
4307	Ditto	br. s. ..	1·65	1·39	·006	·06	·006	·06	·005	·04	93 80	·0007	·0089	·0113	·0010	2,429	239	2,278	1,971	27	4,350	49	5·60
4308	Ditto	lt. br. s. ..	1·44	2·62	·006	·07	·022	·05	·123	·06	91·17	·0065	·0056	·0136	·0022	2,376	760	1,732	2,129	301	267	105	5·10
4309	Ditto	ch. s. ..	3·63	4·11	·011	·06	·035	·05	·068	·05	80·58	·0003	·0078	·0092	·0038	1,979	1,094	1,576	1,554	127	581	163	4·90
4310	Ditto	lt. br. s. s.	·71	2·10	·009	·07	·034	·09	·099	·17	91·67	..	·0200	·0150	·0130	2,777	1,276	3,452	6,304	..	750	488	5·81
4311	Ditto	lt. rd. s. s...	·05	2·36	·009	·06	·028	·08	·069	·23	88·02	..	·0060	·0080	·0060	2,061	1,012	2,821	8,282	..	217	217	5·39
4312	Ditto	lt. br. s. s...	1·06	1·99	·007	·08	·023	·08	·059	·09	91·93	..	·0080	·0110	·0030	3,120	844	3,120	3,560	..	294	110	5·25
4313	Ditto	rd. s. s. ..	·40	2·54	·009	·06	·021	·06	·043	·22	88·16	..	·0050	·0100	·0010	2,296	765	2,332	7,834	..	182	36	5·06
4314	Ditto	gr. s. s. ..	·55	1·82	·009	·08	·023	·11	·061	·06	92·55	..	·0150	·0140	·0070	3,179	926	4,225	2,374	..	604	281	5·81
4315	Ditto	br. s. s. ..	·45	2·19	·007	·06	·026	·08	·034	·14	89·94	..	·0070	·0080	·0020	2,415	997	3,259	5,291	..	268	77	5·74
4321	Sunnybank	rd. l. ..	·83	3·81	·008	·09	·018	·08	·084	·06	91·11	·0010	·0610	·0340	·0090	3,341	626	2,958	2,158	34	2,123	312	6·34
4323	Zillmere	rd. br. s. l.	·45	3·47	·007	·15	·066	·06	·086	·04	89·37	·0300	·0380	·0170	·0060	5,756	2,584	2,467	1,410	1,175	1,488	235	6·36
4324	Ditto	rd. br. s. l.	·76	3·30	·007	·15	·126	·08	·130	·06	88·23	·0360	·0410	·0100	·0110	5,716	4,900	3,305	2,250	1,400	1,594	428	6·67
4326	Boonah	ch. br. cl. l.	5·00	11·38	·002	·52	·200	1·82	·79	·80	59·55	·0101	·4763	·7530	·0216	13,850	5,237	48,300	21,240	268	12,628	573	7·00
4327	Ditto	br. cl. ..	2·34	9·12	·002	·28	·120	1·41	·79	·65	62·86	·0040	·3256	·6551	·0114	8,868	3,709	43,835	20,232	125	10,200	354	7·00
4328	Ditto .: ..	dk. gr. br. cl.	1·95	8·28	·002	·22	·120	1·35	·71	·55	63·70	·0054	·2938	·6404	·0099	5,741	3,051	34,670	14,144	139	7,532	255	7·40
4329	Ditto	lt. gr. br. cl.	1·35	9·46	·002	·22	·100	1·42	1·01	·58	63·58	·0028	·2907	·3173	·0064	7,373	3,206	47,018	19,237	93	9,590	210	7·40

Table I.—ANALYSES OF QUEENSLAND SOILS—*continued.*

Laboratory No.	Locality.	Description of Soils.	TOTAL ELEMENTS IN THE SOIL, CALCULATED ON SOIL DRIED AT 100° C.									Available Plant Food, Soluble in 1 per cent. Citric Acid.				Total Elements, Lb. per Acre, 12" Deep				Available Plant Food, Soluble in 1 per cent. Citric Acid. Lb. per Acre, 12" Deep.			SOIL ACIDITY.	Remarks.
							Soluble in Hydrochloric Acid, Sp. Gr. 1·115.																PH.	
			Humus.	Combined Water and other Organic Matter.	Chlorine.	Nitrogen.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Total Insoluble Matter.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Nitrogen.	Phosphoric Acid	Lime.	Potash.	Phosphoric Acid	Lime.	Potash.	Water Suspension 1:2	
			%	%	%	%	%	%	%	%	%	%	%	%	%									
	PORT CURTIS—																							
4156	Thangool ..	.. dk. cl. l. ..	2·00	7·60	..	·16	·076	1·22	·57	·25	71·62	·0031	·0650	·0830	·0127	5,272	2,521	40,440	8,426	103	22,060	421	7·50	
4157	Ditto ..	.. dk. gr. cl. l.	1·10	10·20	..	·09	·043	4·14	·59	·18	66·39	·0003	·3370	·1400	·0075	3,132	1,496	144,100	6,160	10	11,729	261	8·50	
4158	Ditto ..	.. gr. cl. l. ..	·80	8·20	..	·06	·039	2·95	1·16	·22	69·78	·0003	·3250	·2170	·0051	2,053	1,387	102,600	7,518	10	11,310	177	8·60	
4159	Ditto ..	.. dk. gr. cl. l.	4·20	8·80	..	·34	·158	·96	·57	·42	70·65	·0129	·3700	·1180	·0356	11,540	5,414	32,940	14,350	442	12,670	1,219	7·70	
4160	Ditto ..	.. dk. gr. cl. l.	1·30	11·30	..	·12	·069	5·17	2·35	·27	63·71	·0003	·3920	·2250	·0076	3,914	2,289	171,500	8,858	10	13,000	252	8·50	
4161	Ditto ..	.. lt. gr. cl. l.	1·00	13·00	..	·10	·055	7·23	1·40	·24	59·73	·0003	·3470	·2170	·0067	3,426	1,884	247,700	8,258	10	11,890	260	8·70	
4162	Ditto ..	.. dk. br. cl. l.	3·35	6·83	..	·29	·160	1·62	·57	·22	80·23	·0219	·8879	·1936	·0294	9.566	5,017	51,845	7,024	702	28,473	943	8·10	
4163	Ditto ..	.. dk. br. cl. l.	1·41	8·77	..	·18	·100	3·46	1·29	·28	74·38	·0243	·3625	·1304	·0254	6,198	3,562	117,560	9,619	826	12,333	866	8·10	
4164	Ditto ..	.. lt. br. cl. l.	·86	23·93	..	·12	·070	21·02	3·12	·17	43·70	·0086	·3784	·0964	·0377	3,753	2.284	667,000	5,547	274	12,008	1,198	8·20	
4226	Biloela ..	.. lt. bl. cl. l.	3·92	6·39	·004	·21	·171	1·09	·64	·58	73·57	·0360	·2647	·0125	·0263	5,932	4,846	30,840	16,448	1,022	7,516	746	6·44	
4227	Ditto ..	.. lt. bl. cl. l.	3·59	6·84	·005	·20	·176	1·06	·33	·59	71·78	·0376	·2734	·0140	·0253	6,023	5,224	31,340	17,515	1,115	8,121	753	6·48	
4228	Ditto ..	.. lt. bl. cl. l.	3·73	6·37	·005	·19	·166	1·10	·60	·58	74·61	·0408	·2850	·0143	·0319	5,684	4.916	32,570	17,219	1,208	8,432	943	6·53	
4229	Ditto ..	.. lt. bl. cl. l.	4·44	6·33	·004	·21	·169	1·08	·42	·56	72·33	·0407	·2573	·0185	·0281	6,042	4,876	31,110	16,153	1,044	7,439	814	6·61	
4230	Ditto ..	.. lt. bl. cl. l.	3·78	6·00	·003	·18	·146	·98	·54	·56	75·25	·0284	·2707	·0097	·0258	5,452	4,325	28,934	16,447	841	8,001	761	6·45	
4231	Ditto ..	.. lt. bl. cl. l.	4·08	6·00	·004	·20	·172	·96	·36	·53	74·07	·0354	·2663	·0130	·0236	5,596	4,740	26,270	14,560	974	7,324	648	6·48	
4232	Ditto ..	.. gr. br. cl. l.	3·15	5·56	·002	·17	·160	1·13	·89	·68	76·17	·0327	·2831	·0865	·0308	5,116	4,873	33,500	20,100	968	8,375	910	6·40	
4233	Ditto ..	.. gr. bl. cl. l.	3·85	6·09	·003	·19	·160	1·00	·58	·65	73·82	·0272	·2839	·0904	·0219	5,282	4,563	27,695	17,988	751	7,802	605	6·40	
4234	Ditto ..	.. gr. bl. cl. l.	2·34	5·25	·004	·15	·120	·99	·76	·58	79·04	·0217	·2434	·0683	·0272	4.845	3,850	31,123	18,290	680	7,621	850	6·30	
4235	Ditto ..	.. gr. bl. cl. l.	3·30	6·06	·002	·17	·140	1·04	·80	·67	75·70	·0267	·2663	·0772	·0262	5,071	4,226	30,486	19,620	785	7,826	770	6·40	
4236	Ditto ..	.. gr. bl. cl. l.	2·68	3·23	·002	·12	·120	·96	·71	·53	80·32	·0216	·2180	·0558	·0209	3,979	4,046	31,700	17,534	712	7,196	691	6·50	
4237	Ditto ..	.. gr. bl. cl. l.	3·14	4·86	·002	·15	·140	1·02	·80	·57	78·60	·0334	·2804	·0735	·0251	4,763	4,416	31,542	25,232	1,028	8,637	773	6·50	
4238	Ditto ..	.. br. gr. st. l.	2·50	10·00	..	·17	·179	1·05	·32	·44	67·50	·0361	·2400	·0206	·0212	5,808	5,840	34,260	14,320	1,178	7,830	692	6·90	
4239	Ditto ..	.. gr. silt l. ..	2·50	8·80	..	·14	·182	1·17	·54	·40	67·60	·0218	·2210	·0114	·0108	4,687	6,136	39,450	13,420	735	7,452	364	6·80	
4240	Ditto ..	.. br. silt l. ..	1·30	8·00	..	·07	·119	·58	·23	·55	70·00	·0024	·1420	·0136	·0099	2,608	4,432	21,790	20,680	89	5,290	369	8·50	
4241	Ditto ..	.. br. silt l. ..	·80	7·70	..	·06	·123	1·01	·71	·53	69·40	·0196	·3950	·0144	·0197	2,192	4,649	38,180	19,940	741	14,478	745	8·80	
4242	Ditto ..	.. lt. br. silt l.	·40	7·70	..	·03	·205	3·09	·18	·59	68·40	·0144	·2100	·0460	·0098	1,073	7,860	118,500	22,580	552	8,052	376	8·80	

4243	Ditto	dk. gr. l. ..	3·10	10·50	..	·25	·108	·93	·19	·25	65·60	·0018	·4760	·0146	·0121	8,222	3,524	30,410	8,092	58	15,530	395	8·10
4244	Ditto	gr. cl. l. ..	·79	9·85	·008	·08	·030	3·58	·65	·21	63·82	·0004	·3029	·0616	·0036	2,927	1,126	127,000	7,503	15	10,738	128	8·40
4245	Ditto	gr. cl. l. ..	·39	7·95	·078	·03	·050	1·73	·86	·19	66·44	·0004	·2878	·0732	·0032	..	..	..	..	..	..	..	8·40
4246	Ditto	gr. br. cl. l.	·32	7·42	·175	·03	·050	·58	·76	·18	69·30	·0005	·1160	·0819	·0036	..	..	..	..	..	..	..	8·20
4247	Ditto	gr. br. cl. l.	·34	6·64	·180	·02	·040	·31	·84	·15	69·71	·0006	·0495	·0665	·0032	..	..	..	..	..	..	..	6·20
4248	Ditto	dk. gr. cl. l.	2·40	5·10	..	·12	·059	1·22	·53	·35	69·10	·0020	·4870	·0560	·0177	4,213	2,038	42,130	12,260	69	16,820	611	8·50
4249	Ditto	gr. cl. l. ..	2·30	5·20	..	·09	·039	1·22	·32	·29	68·60	·0013	·5630	·0470	·0055	3,177	1,379	43,130	10,220	46	19,900	194	8·80
4250	Ditto	gr. cl. l. ..	2·30	5·70	..	·06	·035	1·18	·36	·24	66·80	·0013	·5450	·0400	·0046	2,106	1,256	42,360	8,472	47	19,560	165	8·30
4251	Ditto	lt. gr. cl. l.	2·40	3·00	..	·05	·026	·63	·33	·26	71·50	·0014	·1980	·0260	·0102	1,692	933	22,690	9,442	50	7,110	366	7·60
	DARLING DOWNS—																						
4155	Toobeah	br. sand ..	·30	·66	·002	·02	·030	·09	·10	·07	96·87	·0051	·0258	·0119	·0050	767	1,264	4,108	3,115	230	1,165	226	..
4218	Beelbee, Warra ..	br. cl. l. ..	·90	8·70	..	·06	·056	·09	·27	·26	65·80	·0007	·0215	·0191	·0055	2,182	2,071	3,550	9,838	26	795	203	5·30
4219	Ditto	dk. br. cl. l.	2·30	8·00	..	·19	·095	·33	·14	·15	70·00	·0020	·1880	·0307	·0128	6,732	3,358	11,770	5,373	70	6,646	452	7·10
4220	Ditto	rd. br. cl. l.	·70	4·80	..	·07	·069	·03	·12	·14	77·90	·0007	·0100	·0198	·0038	2,938	2,739	1,390	5,678	27	397	151	5·90
4221	Ditto	gr. s. ..	·30	1·70	..	·04	·003	·05	·05	·06	94·50	·0007	·0095	·0087	·0042	1,728	133	2,174	2,792	31	421	186	6·30
4295	Inglewood	dk. br. l. ..	3·00	7·30	..	·27	·071	1·23	·22	·32	76·40	·0100	·7210	·0320	·0340	8,210	2,143	37,130	9,512	301	21,760	1,026	8·40
4296	Ditto	br. gr. l. ..	1·10	6·10	..	·11	·035	2·10	·49	·23	76·20	·0018	·3430	·1520	·0086	3,612	1,170	70,240	7,896	60	11,470	287	8·80
4297	Ditto	dk. br. gr. l.	·80	6·50	..	·08	·026	2·60	·37	·24	75·40	·0006	·2880	·1080	·0053	2,850	926	92,620	8,692	21	10,260	189	8·90
4302	Millhill, Warwick ..	s. s. ..	·66	2·04	·003	·05	·079	·09	·12	·04	93·40	·0290	·0600	·0210	·0120	2,219	3,308	4,146	1,926	1,214	2,512	502	6·77
4303	Ditto	s. s. ..	·50	2·20	·002	·05	·042	·06	·16	·04	93·70	·0060	·0370	·0360	·0080	2,223	1,667	2,501	1,509	238	1,469	318	6·78
4320	Guluguba, Roma ..	s. l. ..	·09	3·18	·006	·09	·042	·30	·12	·44	90·48	·0010	·1380	·0090	·0200	3,327	1,519	10,849	15,911	36	3,752	723	7·88
4330	Inglewood	gr. cl. s. ..	·70	6·80	..	·14	·032	·54	·56	·29	76·17	·0034	·3080	·1080	·0187	4,428	1,027	17,581	9,336	109	9,882	600	8·20
4331	Ditto	cl. s. ..	·76	5·72	..	·06	·021	·28	·31	·22	75·83	·0008	·0733	·0509	·0109	1,999	688	9,404	7,372	26	2,402	357	5·82
4332	Ditto	dk. gr. cl. s.	1·73	9·27	..	·23	·041	3·50	·44	·26	72·15	·0020	·4190	·1056	·0170	6,538	1,162	98,920	7,566	57	11,960	485	8·53
4333	Ditto	cl. s. ..	·49	5·03	..	·04	·019	·41	·44	·22	77·13	·0011	·1130	·0872	·0031	1,288	682	14,240	7,760	38	3,934	108	8·30
4334	Ditto	bl. cl. l. ..	·80	6·14	..	·14	·044	·50	·56	·25	77·50	·0022	·2266	·1490	·0126	4,705	1,448	16,480	8,324	72	7,444	415	8·41
4335	Ditto	cl. l. ..	·32	4·64	..	·05	·026	1·08	·60	·13	80·63	·0002	·2650	·1750	·0145	1,816	894	37,245	4,353	7	9,080	497	8·99
	WIDE BAY—																						
4203	Kandanga	lt. gr. br. s. l.	3·17	5·02	·002	·20	·110	·23	1·13	1·11	70·14	·0011	·1024	·4189	·0072	6,458	3,500	7,318	35,318	35	3,258	229	6·90
4204	Ammamoor ..	rd. ch. l. ..	2·70	6·96	·004	·15	·140	·20	·24	·25	52·35	·0025	·1079	·0682	·0118	5,167	4,759	6,798	8,497	850	3,668	401	5·20
4291	Imbil	..	2·30	12·70	..	·19	..	..	..	..	..	..	·0900	·0206	·0098	4,960	..	..	..	..	2,349	256	6·50
4292	Ditto	..	1·60	9·40	..	·16	..	..	..	..	..	..	·0786	·0176	·0086	5,112	..	..	..	..	4,236	266	6·90

Table I.—ANALYSES OF QUEENSLAND SOILS—*continued.*

Laboratory No.	Locality.	Description of Soils.	TOTAL ELEMENTS IN THE SOIL, CALCULATED ON SOIL DRIED AT 100° C.									Available Plant Food, Soluble in 1 per cent. Citric Acid.				Total Elements, Lb. per Acre, 12" Deep.				Available Plant Food, Soluble in 1 per cent. Citric Acid. Lb. per Acre, 12" Deep.			SOIL ACIDITY.	Remarks.
							Soluble in Hydrochloric Acid, Sp. Gr. 1·115.																PH.	
			Humus.	Combined Water and other Organic Matter.	Chlorine.	Nitrogen.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Total Insoluble Matter.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Nitrogen.	Phosphoric Acid.	Lime.	Potash.	Phosphoric Acid.	Lime.	Potash.	Water Suspension 1 : 2	
			%	%	%	%	%	%	%	%	%	%	%	%	%									
	WIDE BAY—*continued.*																							
4293	Imbil	..	2·40	12·20	..	·21	..	..	..	..	..	..	·1030	·0233	·0054	..	..	..	..	..	2,801	147	6·50	
4294	Ditto	..	1·70	9·00	..	·16	..	..	..	..	..	..	·0896	·0470	·0053	4,904	..	..	..	..	2,729	161	6·20	
4336	Selene	gr. br. cl. ..	1·09	9·66	·009	·18	·090	1·54	1·11	·41	64·31	·0043	·3902	·0356	·0157	5,665	2,698	47,880	12,813	135	12,085	486	7·50	
4337	West Cooroy ..	dk. br. l. ..	3·13	8·08	·007	·28	·250	·46	·52	·96	70·80	·0300	·2260	·0150	·0200	8,341	7,342	13,509	28,194	881	6,637	587	5·80	
4338	Goomboorian ..	lt. ch. cl. l.	2·65	13·56	·010	·39	·110	·70	·32	·10	39·90	·0050	·4180	·0160	·0160	12,428	3,470	22,081	3,154	158	13,186	505	7·20	
4339	Calies Creek ..	dk. br. cl. l.	1·80	9·47	·007	·27	·120	1·63	·53	·19	58·30	·0050	·3160	·0600	·0070	8,632	3,850	52,304	6,097	160	10,140	225	6·80	
4340	Goomboorian ..	br. cl. l. ..	3·28	9·39	·010	·36	·230	·38	·21	·84	67·80	·0170	·1030	·0110	·0210	10,336	6,567	10,850	23,985	485	2,941	600	5·90	
4341	Tinbeerwah ..	rd. br. s. ..	1·23	2·84	·010	·09	·130	·13	·18	·03	89·60	·0020	·0180	·0080	·0040	3,624	4,807	4,807	1,109	74	666	148	5·20	
4342	Chatsworth	v. dk. br. l.	2·38	10·33	·010	·45	·220	1·91	·37	·24	63·10	·0070	·3190	·0390	·0060	14,166	6,880	59,730	7,505	219	9,976	188	6·40	
4344	Imbil	gr. f. s. l. ..	1·96	6·53	·001	·19	·180	1·98	1·47	·72	72·27	·0154	·1656	·0880	·0073	5,886	5,408	61,082	22,270	474	5,097	226	6·20	
4345	Ditto	lt. gr. f. s. l.	·96	3·54	·001	·10	·080	·79	·25	·40	84·33	·0039	·0648	·0392	·0157	3,158	2,502	24,300	12,195	119	1,995	485	6·20	
	COOK—																							
4207	Aurukun Mission ..	gr. br. s. s.	4·48	8·57	·005	·47	·180	2·45	·33	·11	82·06	·0414	1·2288	·0757	·0106	16,136	5,964	83,490	3,859	1,410	42,880	361	7·40	
4208	Ditto	gr. br. s. s.	1·06	6·40	·014	·12	·050	10·02	·23	·06	81·32	·0070	1·0874	·0204	·0083	4,717	1,999	397,750	2,399	276	43,170	328	7·70	
4209	Ditto	br. s. ..	·90	1·14	·042	·04	·050	·21	·07	·05	95·70	·0057	·0976	·0146	·0052	1,633	2,094	8,796	2,094	239	4,080	218	6·85	
4210	Ditto	br. bl. s. ..	1·86	1·74	·002	·12	·060	·48	·11	·05	93·23	·0129	·3485	·0095	·0052	5,018	2,447	19,580	2,040	526	14,160	212	7·30	
4277	Atherton	lt. br. l. ..	2·41	8·54	·003	·20	·250	·08	·07	·22	68·09	·0084	·0442	·0251	·0069	5,810	7,114	2,372	6,224	243	1,277	199	3·50	
4278	Ditto	lt. br. l. ..	1·95	7·70	·003	·21	·240	·26	·16	·24	69·40	·0089	·1380	·0699	·0111	6,592	7,505	8,158	7,505	234	4,385	352	5·00	
4279	Ditto	lt. br. l. ..	1·69	7·54	·002	·19	·240	·50	·23	·22	68·85	·0069	·2595	·0334	·0165	5,684	7,067	15,056	6,453	206	7,777	495	6·80	
4280	Ditto	br. l. ..	1·58	5·81	·003	·18	·180	·39	·27	·22	75·82	·0070	·1991	·0592	·0131	6,036	6,070	12,813	7,081	229	6,572	432	7·00	
4281	Ditto	br. l. ..	1·89	5·83	·001	·20	·170	·37	·20	·15	78·01	·0075	·1962	·0705	·0121	6,609	5,732	12,138	5,058	246	6,478	398	6·80	
4282	Ditto	br. l. ..	1·45	6·50	·002	·19	·160	·37	·25	·13	77·89	·0068	·1986	·0498	·0096	6,439	5,569	12,030	4,525	233	6,783	327	6·80	
4283	Ditto	br. cl. l. ..	2·90	10·50	·008	·28	·333	·54	·24	·31	61·40	·0010	·3000	·0640	·0250	8,589	10,142	16,477	9,502	30	9,137	761	7·34	
4284	Ditto	br. cl. l. ..	2·70	10·20	·005	·29	·344	·55	·26	·32	61·20	·0019	·2800	·0610	·0180	8,874	10,384	16,692	9,538	57	8,452	543	7·50	
4285	Ditto	br. cl. l. ..	2·50	9·90	·005	·28	·330	·44	·23	·28	61·70	·0025	·2830	·0620	·0170	8,819	10,320	13,760	8,694	78	8,850	532	7·42	

	LEICHHARDT—																						
4165	Woorabinda Farm ..	lt. br. s. silt	·50	1·03	·016	·03	·030	·11	·08	·05	95·15	·0061	·0321	·0183	·0038	1,618	1,523	4,997	2,427	290	1,518	181	..
4166	Ditto	bl. h. cl. ..	1·58	9·57	·020	·14	·050	·44	·70	·04	63·56	·0094	·1036	·0458	..	4,175	1,359	13,105	1,262	278	3,081	..	..
4167	Ditto	lt. br. s. silt	·55	·78	·009	·02	·011	·11	·10	·02	95·69	·0005	·0344	·0201	·0054	1,005	503	4,798	1,051	23	1,564	247	..
4168	Ditto	gr. br. m. cl.	·77	3·90	·002	·08	·030	·30	·35	·12	85·08	·0011	·0858	·0211	·0062	2,764	823	9,674	3,817	36	2,744	197	..
4217	Newstead, Surat ..	br. gr. s. s.	·60	2·87	·011	·16	·200	·61	·36	·23	92·58	·1260	·4150	·0700	·0430	6,471	7,940	24,139	9,171	5,002	16,476	1,707	8·11
4252	Blackwater	gr. f. s. l. ..	1·29	4·26	·001	·11	·100	·58	·05	·60	84·58	·0263	·1602	·0427	·0177	3,718	3,508	19,644	20,345	891	5,422	600	..
4322	Pioneer, Clermont ..	br. gr. s. l.	2·78	5·07	·007	·45	·333	2·34	·16	·21	82·64	·1650	·3480	·0600	·0160	14,226	10,504	74,035	6,561	5,205	10,977	504	8·04
	WARREGO—																						
4224	Charleville	rd. s. l. ..	·36	3·05	·002	·04	·010	·06	·09	·17	86·48	·0001	·0138	·0009	·0064	1,538	394	2,366	6,702	4	528	244	..
4225	Cunnamulla ..	rd. br. f. s. l.	·31	4·49	·014	·04	·030	·68	·63	·31	80·18	·0013	·3168	·0194	·0074	1,495	1,150	24,921	11,504	46	11,600	272	..
4325	Wyandra	br. cl. l. ..	·32	5·30	·028	·14	·046	1·79	·22	·53	77·30	·0030	·9080	·0530	·0110	4,196	1,388	54,031	15,998	90	27,408	332	8·87
	MARANOA—																						
4316	Bollon Road ..	br. s. ..	·45	3·70	·005	·04	·026	·53	·12	·54	76·63	..	..	..	..	1,370	890	18,157	18,500	..	..	..	7·60
4317	Ditto	br. s. ..	·28	·52	·005	·09	·060	·99	·24	·39	93·56	..	..	..	..	2,765	1,843	30,417	12,125	..	..	..	8·16
4318	Cunnamulla Road ..	br. s. ..	·24	·58	·006	·05	·037	·38	·04	·34	93·68	..	..	..	..	1,645	1,217	12,502	12,033	..	..	..	7·58
	NORTH KENNEDY—																						
4286	Bowen	v. dk. br. s. l.	1·90	2·80	..	·08	·118	2·33	·23	·41	79·40	·0270	·1810	·0360	·0144	3,467	4,813	95,030	16,520	1,101	7,382	587	6·90
4287	Ditto	dk. gr. br. s. l.	1·40	3·40	..	·08	·190	2·47	·19	·64	77·10	·0470	·1950	·0230	·0286	2,900	6,972	90,680	23.350	1,725	7,158	1,050	7·30
4288	Ditto	v. dk. br. s. l.	·90	2·20	..	·07	·060	1·93	·13	·24	85·20	·0270	·1460	·0200	·0105	2,153	2,153	69,260	8,645	969	5,240	377	7·70
	BURNETT—																						
4343	Goomeri	lt. br. l. ..	1·70	6·15	·001	·22	·090	·43	·79	·21	75·88	·0055	·1938	·0394	·0166	7,182	3,035	14,162	6,744	179	6,346	543	7·30
	MITCHELL—																						
4319	Wammadoo ..	lt. br. cl. ..	·57	6·47	·006	·13	·070	2·08	·16	·41	78·01	·0050	·3200	·0240	·0160	4,277	2,303	68,189	13,489	164	10,528	789	8·45

Table II.—SOME QUEENSLAND SOILS (PHYSICAL PROPERTIES AND MECHANICAL ANALYSES).

Laboratory No.	Locality.	Description of Soils.	Ph. Water Suspension 1 : 2.	Properties of the Soil.								Mechanical Analyses.							Chemical Analyses.		
								Capillarity (in Inches).													
				Apparent Specific Gravity.	Weight of Soil per Acre, 12" deep.	Capacity for Water.	Absorbed Weight of Water, 12" deep.	After 3 Hours.	After 6 Hours.	After 24 Hours.	After 48 Hours.	Coarse Sand. ·2–2 m.m.	Fine Sand. ·02–·2 m.m.	Silt. ·002–·02 m.m.	Clay. Less than ·002 m.m.	Loss on Acid Treatment.	% Moisture.	Organic Matter removed by Hydrogen Peroxide (by difference).	Humus.	Organic Matter and Combined Water.	Nitrogen.
					Tons.	%	Tons.					%	%	%	%	%	%	%	%	%	%
	MORETON—																				
4154	Enoggera	gr. br. s. silt ..	5·11	1·29	1,566	36	564	6	7¼	9	10¼	..	..	..	..	..	..	..	1·37	2·93	·137
4180	Landsborough	"	..	1·11	1,348	32	431	6¼	7¾	10½	12	..	..	..	..	..	..	..	4·68	19·72	·538
4194	Maroochy River	br. l. ..	7·00	1·12	1,360	50	680	5	6	8	9	..	..	..	..	..	..	..	2·10	7·10	·202
4195	Ditto	dk. buff l. ..	6·90	1·10	1,336	54	711	5½	7	10	11	..	..	..	..	..	..	..	2·00	6·50	·198
4196	Camp Mountain	lt. buff l. ..	5·20	1·26	1,530	38	518	5½	7	9	10½	..	..	..	..	..	..	..	·80	3·40	·216
4197	Kiamba	lt. buff l. ..	5·40	1·05	1,275	52	663	3½	4	5	6	..	..	..	..	..	..	..	1·50	5·60	·125
4198	Upper Currumbin	dk. br. rd. l. ..	5·40	1·17	1,421	50	710	4½	5	6	6½	..	..	..	..	..	..	..	3·30	14·70	·363
4199	Ditto	buff cl. l. ..	5·10	1·10	1,336	56	748	5½	6½	8	9	..	..	..	..	..	..	..	1·60	6·50	·177
4200	Upper Mudgeeraba	br. gr. cl. l. ..	5·60	1·15	1,396	24	335	4½	5¼	7¼	8½	..	..	..	..	..	..	..	1·95	6·99	·240
4201	Carrara	gr. br. cl. l. ..	5·80	1·03	1,250	36	450	7	7¾	9	9¾	..	..	..	..	..	..	..	1·51	6·13	·211
4202	Woombye	br. s. l. ..	7·00	1·38	1,675	39	653	7	7½	8½	9¼	..	..	..	..	..	..	..	2·37	2·24	·079
4205	Charlwood	lt. bl. l. ..	6·30	1·26	1,530	19	291	11	13	16½	18½	..	..	..	..	..	..	..	·89	4·67	·105
4206	Sandgate	br. bl. s. l. ..	6·20	1·26	1,530	24	367	8	9½	12	13¼	*2·1	43·5	29·9	7·0	9·0	1·4	7·1	2·14	4·96	·251
4211	Yarraman	br. ch. cl. l. ..	7·20	1·07	1,299	55	714	6¼	7¼	8½	9	..	..	..	..	..	..	..	3·25	13·60	·411
4212	Ditto	ch. cl. l. ..	6·83	1·13	1,372	36	494	9½	10¾	13½	15¼	..	..	..	..	..	..	..	2·49	12·17	·308
4213	Murra Murra	br. rd. cl. l. ..	7·80	1·22	1,481	46	682	8	11	19	23½	..	..	..	..	..	..	..	2·30	6·30	·163
4214	Uplands, N. Tamborine	ch. l.	5·70	..	..	..	..	12	13¾	17¾	18½	..	..	..	..	..	..	..	3·64	16·91	·315
4216	Kenilworth	buff cl. l. ..	5·40	1·18	1,433	50	716	9	12	17½	21	..	..	..	..	..	..	..	..	..	·111
4222	Eight-Mile Plains	lt. gr. s. ..	4·80	1·50	1,821	15	273	6½	7¼	9½	11	..	..	..	..	..	..	..	·55	2·00	·028
4223	Ditto	gr. s. s. ..	4·60	1·50	1,821	19	346	9	11	16	18½	..	..	..	..	..	..	..	..	..	..
4253	Mapleton	dk. br. s. l. ..	6·20	1·09	1,323	60	794	9	10	13	15	6·0	18·1	15·0	44·3	4·0	3·2	9·4	4·30	12·41	·329
4254	Flaxton	dk. rd. l. ..	6·30	1·07	1,299	67	870	8½	10	12	13	1·1	10·0	13·1	54·2	3·9	4·5	13·2	4·42	16·76	·446
4255	Montville	dk. br. l. ..	5·60	1·07	1,299	59	761	8½	10½	13¾	14¾	·3	10·2	8·0	55·5	5·5	4·6	15·9	5·39	16·38	·447
4256	Maroochydore Road	dk. gr. s. ..	5·70	1·55	1,882	34	640	7	7¾	10	11	57·8	30·3	3·8	3·9	·9	·5	2·8	1·69	1·45	·062
4257	Ditto	lt. br. rd. s. s. ..	6·20	1·48	1,797	34	611	10	11¾	13¼	14	49·8	29·7	4·1	9·7	2·6	·5	3·6	·97	2·75	·073
4258	Buderim	dk. br. l. ..	5·80	1·07	1,299	61	792	7	8	10¼	11	4·5	3·8	9·8	60·0	5·0	4·4	12·5	4·27	15·97	·404
4265	Benarkin	lt. br. l. ..	5·40	1·20	1,457	30	554	7	7½	9	9¾	..	..	..	..	..	..	..	3·24	9·89	·240
4266	Ditto	lt. br. l. ..	5·36	1·12	1,359	39	590	8½	9½	11¼	12¼	..	..	..	..	..	..	..	3·44	8·40	·280
4267	Ditto	lt. br. l. ..	5·55	1·14	1,374	40	549	8	8¾	10½	11	..	..	..	..	..	..	..	3·43	9·71	·250
4268	Ditto	lt. br. l. ..	5·46	1·14	1,374	40	549	8¾	10¼	13¾	15½	..	..	..	..	..	..	..	3·17	10·76	·240
4269	Ditto	lt. br. l. ..	5·42	1·15	1,396	39	544	10½	12	14	15	..	..	..	..	..	..	..	3·29	8·89	·300
4270	Ditto	lt. br. l. ..	5·38	1·11	1,347	38	412	8¼	9	11¼	12½	..	..	..	..	..	..	..	3·17	10·65	·270
4271	Yarraman	dk. br. l. ..	5·56	1·06	1,287	48	618	9¾	11½	15	16	..	..	..	..	..	..	..	2·29	13·43	·270
4272	Ditto	dk. br. l. ..	5·84	1·06	1,287	48	618	12	14	16½	17½	..	..	..	..	..	..	..	2·17	13·33	·330
4273	Ditto	dk. br. l. ..	5·70	1·08	1,311	42	550	10	11½	13½	14½	..	..	..	..	..	..	..	2·17	13·40	·330
4274	Ditto	dk. br. l. ..	6·60	1·19	1,445	43	621	10	11	14¼	16¼	..	..	..	..	..	..	..	2·41	12·81	·320

4275	Yarraman	dk. br. l.	6·63	1·15	1,396	40	558	10¼	11¾	14½	15½	..	..	..	..	..	..	..	1·99	12·45	·300
4276	Ditto	dk. br. l.	6·62	1·13	1,372	41	562	11¼	12	15	16¼	..	..	..	..	..	..	..	2·02	12·48	·320
4289	Ditto	br. l.	6·02	1·23	1,493	40	597	6½	8	13¼	16¼	12·2	32·9	20·1	24·5	3·5	2·5	4·3	3·50	8·60	·270
4290	Ditto	br. l.	5·87	1·11	1,347	44	593	6½	7¾	10¾	12½	11·9	35·7	22·2	21·1	2·0	2·2	3·9	3·10	6·70	·212
4298	Norwell, Yatala	gr. wt. s.	5·59	1·67	2,027	24	486	5¼	6	7½	8½	..	..	..	..	..	..	..	·65	·95	·045
4299	Ditto	gr. s.	5·58	1·43	1,736	33	573	7	8¼	10½	11¾	..	..	..	..	..	..	..	1·10	3·00	·092
4300	Yarraman	ch. l.	7·54	1·23	1,493	54	806	7¾	9	12¾	14¼	..	..	..	..	..	..	..	2·31	10·40	·253
4301	Ditto	ch. l.	8·25	1·17	1,420	60	852	8	9¼	13	14¼	..	..	..	..	..	..	..	2·95	13·30	·318
4304	Beerwah	lt. s. s.	5·40	1·48	1,797	26	467	9	10¼	12¾	13¼	60·1	24·9	6·0	6·4	1·1	·5	1·0	2·54	3·22	·084
4305	Ditto	lt. s. l.	4·80	1·33	1,614	19	307	9¾	11	13	14	62·1	19·5	9·9	7·2	·4	·2	·7	1·60	1·02	·056
4306	Ditto	lt. s. l.	5·70	1·45	1,760	28	493	10	11	13¼	14	53·2	28·0	10·0	7·2	·6	·4	·6	1·84	1·65	·062
4307	Ditto	br. s.	5·60	1·33	1,614	32	516	10¼	12¼	13¾	17	59·2	20·0	9·7	8·9	·6	·4	1·2	1·65	1·39	·062
4308	Ditto	lt. br. l.	5·10	1·30	1,575	28	441	10	11¼	14	16	55·9	19·8	9·7	11·1	·9	·6	2·0	1·44	2·62	·067
4309	Ditto	ch. s. l.	4·90	1·15	1,396	45	628	11	13	16½	18¾	32·2	12·2	13·3	33·4	3·5	2·9	2·5	3·63	4·11	·063
4310	Ditto	lt. br. s. l.	5·81	1·38	1,675	38	636	7¾	8½	10¼	11¼	59·4	19·7	7·1	10·7	1·1	·9	1·0	·71	2·10	·074
4311	Ditto	lt. rd. s. s.	5·39	1·33	1,614	40	646	6¾	7½	9	10	57·6	16·8	6·7	15·6	1·2	1·1	1·0	·50	2·36	·057
4312	Ditto	lt. br. s. l.	5·25	1·35	1,639	44	721	7¼	8½	10	11	53·0	22·3	11·2	10·6	1·1	·9	·9	1·06	1·99	·085
4313	Ditto	rd. s. s.	5·06	1·34	1,627	42	683	10¼	11½	13¾	14½	46·2	20·0	10·7	18·9	1·8	1·4	·9	·40	2·54	·063
4314	Ditto	gr. s. s.	5·81	1·48	1,797	38	683	9¼	10	12¼	13¼	64·4	16·2	3·3	13·5	·9	·8	·9	·55	1·82	·079
4315	Ditto	br. s. s.	5·74	1·41	1,712	38	650	12	13¼	15½	16¼	66·4	13·9	4·9	11·9	1·1	1·0	·8	·45	2·19	·063
4321	Sunnybank	rd. l.	6·34	1·28	1,554	31	482	10	11½	14¾	16	..	..	..	..	..	..	..	·83	3·81	·096
4323	Zillmere	rd. br. s. l.	6·36	1·44	1,748	34	594	9	12	19½	23½	..	..	..	..	..	..	..	·45	3·47	·147
4324	Ditto	rd. br. s. l.	6·67	1·43	1,736	36	635	8½	9¼	14½	18	..	..	..	..	..	..	..	·76	3·30	·147
4326	Boonah	ch. br. cl. l.	7·00	1·07	1,299	61	792	4¾	5½	8	9½	3·4	17·0	17·4	43·9	3·9	8·9	5·5	5·00	11·38	·522
4327	Ditto	br. cl.	7·00	1·24	1,506	51	768	4¾	6	8¾	9½	3·5	15·9	19·7	47·3	2·6	8·0	3·0	2·34	9·12	·286
4328	Ditto	dk. gr. br. cl.	7·40	1·02	1,238	54	669	6¼	7¾	10½	11¾	4·2	15·5	19·9	47·4	3·3	7·5	2·2	1·95	8·24	·224
4329	Ditto	lt. gr. br. cl.	7·40	1·31	1,590	58	922	4¾	5½	8	9	4·2	16·8	18·2	48·4	3·3	7·3	1·8	1·35	9·46	·223
	PORT CURTIS—																				
4156	Thangool	dk. cl. l.	7·50	1·22	1,481	55	814	4½	5½	6¾	7¾	*1·7	18·3	28·2	13·0	13·8	4·4	9·6	·30	·66	·017
4157	Ditto	dk. gr. cl. l.	8·50	1·28	1,554	55	855	5	6¼	8	9¾	*1·5	15·9	38·9	14·1	11·8	2·9	11·3	1·10	10·20	·088
4158	Ditto	gr. cl. l.	8·60	1·28	1,554	59	917	5¼	6½	8¼	9¾	*1·4	17·6	37·7	13·7	11·6	5·2	9·0	·80	8·20	·059
4159	Ditto	dk. gr. cl. l.	7·70	1·26	1,529	59	902	4¾	6½	9½	11½	*1·6	17·5	34·5	11·7	15·1	4·2	13·0	4·20	8·80	·337
4160	Ditto	dk. gr. cl. l.	8·50	1·22	1,481	56	829	2¾	4½	7¾	9	16·0	18·0	8·5	37·5	11·7	5·3	3·0	1·30	11·30	·118
4161	Ditto	lt. gr. cl. l.	8·70	1·26	1,530	54	826	2¾	4	7¾	9¾	*1·6	14·5	36·3	12·2	12·9	5·6	14·0	1·00	13·00	·100
4162	Ditto	dk. br. cl. l.	8·10	1·23	1,493	50	747	7¼	9¼	12½	14½	*1·1	24·3	42·0	10·3	9·3	1·7	10·2	3·35	6·83	·298
4163	Ditto	dk. br. cl. l.	8·10	1·31	1,590	50	795	6½	8½	12½	13¾	23·2	27·7	6·5	28·4	6·5	4·5	3·2	1·41	8·77	·182
4164	Ditto	lt. br. cl. l.	8·20	1·20	1,457	50	729	7½	9½	13¼	18½	16·0	16·8	6·5	17·0	40·0	2·7	1·0	·86	23·93	·118
4226	Biloela	lt. bl. cl. l.	6·44	1·08	1,311	52	682	7	9¼	13¼	15¼	..	..	..	..	..	..	..	3·92	6·39	·209
4227	Ditto	dk. br. cl. l.	6·48	1·13	1,372	52	713	7	9¼	13¼	15½	..	..	..	..	..	..	..	3·59	6·84	·203
4228	Ditto	lt. bl. cl. l.	6·53	1·13	1,372	54	741	8¼	10¼	14¼	16	..	..	..	..	..	..	..	3·73	6·37	·192
4229	Ditto	lt. bl. cl. l.	6·61	1·10	1,335	54	721	7¼	9	13	14½	..	..	..	..	..	..	..	4·44	6·33	·209
4230	Ditto	lt. bl. cl. l.	6·45	1·12	1,360	56	762	8¾	11¼	15¾	18¼	..	..	..	..	..	..	..	3·78	6·00	·184
4231	Ditto	lt. bl. cl. l.	6·48	1·05	1,275	66	842	8½	10½	13¼	14¼	..	..	..	..	..	..	..	4·08	6·00	·203
4232	Ditto	gr. br. cl. l.	6·40	1·12	1,360	52	707	7	9¼	13½	15½	..	..	..	..	..	..	..	3·15	5·56	·173
4233	Ditto	gr. br. cl. l.	6·40	1·05	1,275	56	714	7¼	9¼	12½	14½	..	..	..	..	..	..	..	3·85	6·09	·191
4234	Ditto	gr. bl. cl. l.	6·30	1·18	1,433	48	688	9¼	11½	15	17	..	..	..	..	..	..	..	2·34	5·25	·155
4235	Ditto	gr. br. cl. l.	6·40	1·11	1,348	56	735	9	10½	13	14¼	..	..	..	..	..	..	..	3·30	6·06	·173
4236	Ditto	gr. br. cl. l.	6·50	1·24	1,506	42	632	9	11½	17	19¾	..	..	..	..	..	..	..	2·68	3·23	·121
4237	Ditto	gr. br. cl. l.	6·50	1·16	1,408	50	704	9½	12¼	16½	18¾	..	..	..	..	..	..	..	3·14	4·86	·155
4238	Ditto	br. gr. silt l.	6·90	1·20	1,457	72	1,049	6	7	10½	12¼	1·8	24·1	23·5	34·6	4·6	3·3	8·1	2·50	10·00	·178
4239	Ditto	gr. silt l.	6·80	1·24	1,505	56	842	6	7	9½	10¾	1·9	21·3	24·5	36·4	5·3	3·5	7·1	2·50	8·80	·139
4240	Ditto	br. silt l.	8·50	1·37	1,663	56	931	4¼	5	8	9½	1·6	20·4	20·4	44·1	3·6	4·5	5·4	1·30	8·00	·070
4241	Ditto	br. silt l.	8·70	1·39	1,688	60	1,012	4	4¾	7	9¼	1·3	25·0	24·7	36·8	3·6	3·2	5·4	·80	7·70	·058
4242	Ditto	lt. br. silt l.	8·80	1·41	1,712	50	856	4	5	9¼	13¼	·4	36·1	20·4	27·7	7·2	2·7	5·5	·40	7·70	·028
4243	Ditto	dk. gr. l.	8·10	1·20	1,437	60	874	8	9½	13	15	13·0	20·6	10·5	38·3	4·6	4·5	8·5	3·10	10·50	·252
4244	Ditto	gr. cl. l.	8·40	1·38	1,675	41	657	5½	9¾	11½	13¼	9·0	17·1	8·1	46·7	6·0	5·4	7·7	·79	9·85	·082
4245	Ditto	gr. cl. l.	8·40	1·47	1,785	39	696	3	4¾	5½	6¼	9·2	18·8	9·7	47·8	3·5	5·2	5·8	·39	7·95	·036
4246	Ditto	gr. br. cl. l.	8·20	1·40	1,700	41	697	2½	3¾	4	4½	..	..	..	..	..	..	..	·32	7·43	·030
4247	Ditto	gr. br. cl. l.	6·20	1·42	1,724	39	672	2	2¼	2¾	3	9·1	19·6	9·3	49·5	1·8	6·0	4·7	·34	6·64	·018
4248	Ditto	dk. gr. cl. l.	8·50	1·27	1,542	58	894	3	5	8	9½	6·9	14·1	12·5	49·3	3·9	8·4	4·9	2·40	5·10	·122
4249	Ditto	gr. cl. l.	8·80	1·30	1,578	60	947	2½	4	8	10	4·8	12·5	12·5	52·3	4·2	8·5	5·2	2·30	5·20	·092
4250	Ditto	gr. cl. l.	8·30	1·32	1,628	62	1,008	1	2	3	4½	4·6	11·6	14·5	51·4	4·1	8·7	5·1	2·30	5·70	·061
4251	Ditto	lt. gr. cl. l.	7·60	1·32	1,628	66	1,074	0	0½	1¼	1½	..	..	..	..	..	..	..	2·40	3·00	·049

* Determined by old method of mechanical analysis.

Table II.—SOME QUEENSLAND SOILS (PHYSICAL PROPERTIES AND MECHANICAL ANALYSES)—*continued*.

Laboratory No.	Locality.	Description of Soils.	Ph. Water Suspension 1 : 2	PROPERTIES OF THE SOIL.								MECHANICAL ANALYSES.							CHEMICAL ANALYSES.		
				Apparent Specific Gravity.	Weight of Soil per Acre, 12" deep.	Capacity for Water.	Absorbed Weight of Water, 12" deep.	CAPILLARITY (IN INCHES). After 3 Hours.	After 6 Hours.	After 24 Hours.	After 48 Hours.	Coarse Sand. ·2–2 m.m.	Fine Sand. ·02–·2 m.m.	Silt. ·002–·02 m.m.	Clay. Less than ·002 m.m.	Loss on Acid Treatment.	% Moisture.	Organic Matter Removed by Hydrogen Peroxide (by difference).	Humus.	Organic Matter and Combined Water.	Nitrogen.
					Tons.	%	Tons.					%	%	%	%	%	%	%	%	%	%
	DARLING DOWNS—																				
4155	Toobeah	br. sand ..	6·78	1·66	2,015	24	484	13½	15	16¾	17½	..	..	..	..	..	..	..	·30	·66	·017
4218	Beelbee, Warra	br. cl. l. ..	5·30	1·36	1,651	50	825	8	4¼	7½	10	..	..	..	..	..	..	..	·90	8·70	·059
4219	Ditto	dk. br. cl. l. ..	7·10	1·30	1,578	48	757	5½	7½	12¾	16	..	..	..	..	..	..	..	2·30	8·00	·191
4220	Ditto	rd. br. cl. l. ..	5·90	1·46	1,772	42	744	4½	6	8¾	9¾	..	..	..	..	..	..	..	·70	4·80	·073
4221	Ditto	gr. sand ..	6·30	1·63	1,979	30	593	1½	2	2¾	8	..	..	..	..	..	..	..	·30	1·70	·039
4295	Inglewood	dk. br. l. ..	8·40	1·10	1,348	56	754	7	9	13	15¾	20·2	28·9	12·3	29·5	2·6	1·0	5·5	3·00	7·30	·272
4296	Ditto	br. gr. l. ..	8·80	1·23	1,493	54	806	6¾	9	13¼	14¼	15·4	25·5	11·1	39·7	4·1	2·0	3·2	1·10	6·10	·108
4297	Ditto	dk. br. gr. l. ..	8·90	1·31	1,591	52	827	6	7½	10¼	12	14·3	27·2	10·7	36·2	5·9	3·0	2·7	·80	6·50	·080
4302	Millhill, Warwick	s. s.	6·08	1·54	1,869	28	523	6¾	7¾	10½	12	..	..	..	..	..	..	..	·66	2·04	·053
4303	Ditto	s. s.	6·59	1·46	1,772	32	567	8	8¾	10½	11½	..	..	..	..	..	..	..	·50	2·20	·056
4320	Guluguba, Roma	s. l.	7·88	1·33	1,615	36	581	11	18½	20¾	23¾	..	..	..	..	..	..	..	·09	3·18	·092
4330	Inglewood	gr. cl. s. ..	8·20	1·18	1,433	51	731	3¾	4½	6	7	8·4	18·2	19·3	42·7	1·3	6·7	3·4	·70	6·80	·138
4331	Ditto	cl. s.	5·82	1·20	1,463	61	892	2¾	2⅞	3 7/10	3¼	10·0	15·8	15·3	45·4	1·2	7·4	1·9	·76	5·72	·061
4332	Ditto	dk. gr. cl. s. ..	8·53	1·05	1,275	60	765	6	8	11¾	18½	6·4	25·9	17·3	32·9	7·1	4·8	5·6	1·73	9·27	·229
4333	Ditto	cl. s.	8·30	1·28	1,553	61	947	2½	8	8¼	4⅝	7·0	16·4	16·3	49·9	·8	7·6	2·3	·49	5·03	·037
4334	Ditto	bl. cl. l. ..	8·41	1·21	1,469	63	925	4½	5¼	7¾	9	19·7	19·9	7·5	39·7	1·5	6·4	5·8	·80	6·14	·143
4335	Ditto	cl. l.	8·99	1·26	1,530	58	887	5¼	6¾	9¼	10¾	23·5	21·2	10·5	32·4	3·3	5·3	3·8	·32	4·64	·053
	WIDE BAY—																				
4203	Kandanga	lt. gr. br. s. l. ..	6·90	1·17	1,420	47	667	6¼	7¼	9¼	10¾	..	..	..	..	..	..	..	3·17	5·02	·203
4204	Amamoor	rd. ch. l. ..	5·20	1·25	1,518	46	698	8¼	9¾	12¾	13	..	..	..	..	..	..	..	2·70	6·96	·125
4291	Imbil	..	6·50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2·30	12·70	·190
4292	Ditto	..	6·90	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·60	9·40	·165
4293	Ditto	..	6·50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2·40	12·20	·213
4294	Ditto	..	6·20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1·70	9·00	·161
4336	Selene	gr. br. cl. ..	7·50	1·24	1,506	57	858	2¾	3¾	6½	8½	..	..	..	..	..	..	..	1·09	9·66	·183
4337	West Cooroy	dk. br. l. ..	5·80	1·08	1,311	58	760	6½	8	11	13	..	..	..	..	..	..	..	3·13	8·08	·284
4338	Goomboorian	lt. ch. cl. l. ..	7·20	1·16	1,408	64	901	6	6¾	7½	8	..	..	..	..	..	..	..	2·65	13·56	·394
4339	Calies Creek	dk. br. cl. l. ..	6·80	1·18	1,432	60	859	6¾	8½	10¾	12½	..	..	..	..	..	..	..	1·80	9·47	·269
4340	Goomboorian	br. cl. l. ..	5·90	1·05	1,275	60	765	5¾	7	8½	9½	..	..	..	..	..	..	..	3·28	9·39	·362
4341	Tinbeerwah	rd. br. s. ..	5·20	1·36	1,651	42	693	10¼	11	12¼	12¾	..	..	..	..	..	..	..	1·23	2·84	·098
4342	Chatsworth	v. dk. br. l. ..	6·40	1·15	1,396	58	809	5¾	6¾	8½	9½	..	..	..	..	..	..	..	2·38	10·33	·453
4344	Imbil	gr. f. s. l. ..	6·20	1·17	1,421	48	682	5	6½	10½	13¼	..	..	..	..	..	..	..	1·96	6·53	·191
4345	Ditto	lt. gr. f. s. l. ..	6·20	1·15	1,396	41	573	7½	9	12	14	..	..	..	..	..	..	..	·96	3·54	·103
	COOK—																				
4207	Aurukun Mission	gr. br. s. s. ..	7·40	1·29	1,566	36	564	5¾	6¼	7½	8¼	..	..	..	..	..	..	..	4·48	8·57	·437
4208	Ditto	gr. br. s. s. ..	7·70	1·47	1,785	19	339	8½	8¾	9¼	9½	..	..	..	..	..	..	..	1·06	6·40	·119
4209	Ditto	br. s.	6·85	1·54	1,870	15	281	4⅝	4¾	5	5	..	..	..	..	..	..	..	·90	1·14	·039
4210	Ditto	br. bl. s. ..	7·30	1·50	1,821	11	200	2¾	2⅞	3⅛	3¼	..	..	..	..	..	..	..	1·86	1·74	·123

4277	Atherton	lt. br. l. ..	3·50	1·09	1,323	54	714	5½	6½	7½	8	14·5	32·1	18·8	33·7	1·5	2·40	2·00	2·41	8·54	·201
4278	Ditto	lt. br. l. ..	5·00	1·20	1,157	44	641	6¼	7¾	8½	9¾	8·2	36·0	14·5	33·7	1·6	2·60	3·40	1·95	7·70	·207
4279	Ditto	lt. br. l. ..	6·80	1·13	1,372	52	713	7	8¾	9¼	10	12·9	33·6	14·3	33·7	2·0	2·50	1·0	1·69	7·54	·190
4280	Ditto	br. l.	7·00	1·24	1,506	42	633	8¼	10½	11½	12¾	31·6	29·2	9·0	26·0	1·0	2·1	1·1	1·58	5·81	·183
4281	Ditto	br. l.	6·80	1·24	1,506	38	572	10	12½	14¼	15¾	29·4	30·0	10·6	25·6	·8	2·1	1·5	1·89	5·83	·200
4282	Ditto	br. l.	6·80	1·28	1,554	36	560	9¾	13	15¾	17½	26·1	32·4	12·2	25·0	1·4	1·9	1·0	1·45	6·50	·189
4283	Ditto	br. cl. l. ..	7·34	1·12	1,360	54	734	8½	9¼	12	13	6·0	26·4	18·7	40·0	1·4	3·0	4·5	2·90	10·50	·282
4284	Ditto	br. cl. l. ..	7·50	1·11	1,347	50	673	5¾	6¼	7½	8¼	6·7	25·6	19·2	41·8	2·0	2·7	2·0	2·70	10·20	·294
4285	Ditto	br. cl. l. ..	7·42	1·15	1,396	52	726	7¼	8	10	11	8·0	26·2	18·3	40·8	2·3	2·9	2·0	2·50	9·90	·282
	LEICHHARDT—																				
4165	Woorabinda Farm	lt. br. s. silt ..	6·36	1·75	2,125	20	425	8½	11½	18	21½	..	..	..	..	..	..	..	·50	1·03	·034
4166	Ditto	bk. hv. cl.	6·12	1·19	1,445	56	809	5¼	4	6¾	8¾	..	..	..	..	..	..	..	1·58	9·57	·140
4167	Ditto	lt. br. s. silt ..	6·10	1·68	2,040	22	449	9½	11¾	17¾	21	..	..	..	..	..	..	..	·55	·78	·022
4168	Ditto	gr. br. m. cl. ..	6·67	1·21	1,469	41	602	6	7¼	9¾	10¾	..	..	..	..	..	..	..	·77	3·90	·086
4217	Newstead, Surat	br. gr. s. s. ..	8·11	1·46	1,772	38	673	8	9½	13	14½	..	..	..	..	..	..	..	·06	2·87	·163
4252	Blackwater	gr. f. s. l. ..	6·50	1·29	1,566	32	501	6½	8½	13	16	*·1	·3	66·0	11·9	12·3	3·5	5·6	1·29	4·26	·110
4322	Pioneer, Clermont	br. gr. s. l. ..	8·04	1·16	1,408	62	873	6	7	9½	11	..	..	..	..	..	..	..	2·78	5·07	·451
	WARREGO—																				
4224	Charleville	rd. s. l. ..	4·20	1·45	1,760	13	229	10¾	14½	18½	21	..	..	..	..	..	..	..	·36	3·05	·040
4225	Cunnamulla	rd. br. f. s. l. ..	8·70	1·41	1,712	32	548	9½	12	18	21½	*·3	9·2	53·7	16·6	11·8	3·7	4·8	·31	4·49	·041
4325	Wyandra	br. cl. l. ..	8·87	1·11	1,347	56	754	7	8¼	11½	13¼	..	..	..	..	..	..	..	·32	5·30	·139
	MARANOA—																				
4316	Bollon Road	br. s.	7·60	1·26	1,529	48	734	5½	6½	10¾	13¾	3·9	17·1	9·1	62·4	6·0	6·3	·6	·45	3·70	·040
4317	Ditto	br. s.	8·16	1·13	1,372	38	521	..	..	..	..	..	..	..	..	..	..	..	·28	·52	·040
4318	Cunnamulla Road	br. s.	7·58	1·21	1,468	40	587	..	..	..	..	..	..	..	..	..	..	..	·24	·58	·050
	NORTH KENNEDY—																				
4286	Bowen	v. dk. br. s. l. ..	6·90	1·50	1,821	40	728	9	12	18½	21½	6·6	61·5	10·8	13·9	3·1	1·1	3·0	1·90	2·80	·085
4287	Ditto	dk. gr. br. s. l...	7·30	1·35	1,639	41	672	12½	16	22½	25	..	..	..	..	..	..	..	1·40	3·40	·079
4288	Ditto	v. dk. br. s. l. ..	7·70	1·32	1,602	40	641	13¾	15½	18½	20	8·5	67·1	7·5	11·7	2·2	·7	2·3	·90	2·20	·073
	BURNETT—																				
4343	Goomeri	lt. br. l. ..	7·30	1·24	1,506	41	617	7	8¼	10½	12	..	..	..	..	..	..	..	1·70	6·15	·219
	MITCHELL—																				
4319	Wammadoo	lt. br. cl. ..	8·45	1·21	1,468	49	719	6½	8	13½	16½	..	..	..	..	..	..	..	·57	6·47	·130

* Determined by old method of mechanical analysis.

Table III.—ANALYSES OF PASTURE GRASSES, ROUGHAGE, HERBAGE, AND SHRUBS.

Number of Analysis.	Month Cut.	Name of Grass, Herbage, or Shrub.	Local Name.	District.	Analysis of Water-free Material.							Remarks. (Chiefly made by senders.)
					Crude Protein.	Crude Fat.	Carbohydrates.	Crude Fibre.	Crude Ash.	Lime, CaO.	Phosphoric Acid, P_2O_5.	
					%	%	%	%	%	%	%	
157	July	*Atriplex nummularia*	Old Man Saltbush	Injune	23·1	·8	43·8	7·7	24·6	1·261	·710	Salt (NaCl) = 13·6 per cent.
332	July	Italian Sorghum (Seed)	..	St. Lucia	11·5	3·8	76·8	5·7	2·2	·090	·817	
452	July	Imphee	..	Linville	3·1	2·1	56·8	28·1	9·9	·309	·467	
456	July	Grass (No. 1 Sample)	..	Charters Towers (T.)	8·5	1·1	46·1	34·4	9·9	·447	·313	
457	July	*Chloris acicularis* and *Eragrostis parviflora* (No. 2 Sample)	..	Charters Towers (T.)	8·3	1·2	45·0	32·6	12·9	·343	·345	
459	July	*Sansevieria trifasciata*	Bowspring Hemp	Ingham	..	..	..	37·3	..	..	..	
872	August	Egyptian Wheat	..	Mackay	9·7	·8	51·0	30·5	8·0	·461	·656	The plant appears to resemble a sorghum-sudan grass hybrid, but as the stems are pithy and coarser than sudan grass it is doubtful if its fodder value will equal that of sudan grass. Said to have a high reputation as a fodder locally.
976	August	*Dicanthium sericeum*	Blue Grass	Clermont (L.D.)	7·2	1·0	44·8	33·2	13·8	·443	·290	
977	August	*Triraphis mollis*	..	Clermont (L.D.)	9·8	1·0	44·6	35·0	9·6	·663	·284	
978	August	*Eriochloa* sp.	Early Spring Grass	Clermont (L.D.)	10·1	·9	46·2	31·0	11·8	·508	·219	
979	August	*Enneapogon nigricans*	..	Clermont (L.D.)	9·7	1·2	45·1	34·4	9·6	·750	·336	
980	August	*Sporobolus pallidus*	..	Clermont (L.D.)	10·3	·8	47·1	28·4	13·4	·535	·255	
981	August	*Enneapogon nigricans*	..	Clermont (L.D.)	9·9	1·3	44·9	34·4	9·5	·701	·341	
982	August	*Sporobolus pallidus*	..	Clermont (L.D.)	10·0	·9	45·7	28·7	14·7	·578	·277	
983	August	*Chloris acicularis*	..	Clermont (L.D.)	11·8	·8	46·5	28·2	12·7	·506	·269	
1430	September	*Themeda australis*	..	Bundaberg	5·2	1·4	48·2	35·5	9·7	·260	·273	
1431	September	*Eragrostis leptostachya*	..	Bundaberg	6·5	·9	52·3	31·8	8·5	·307	·280	
1998	September	Brown Yolo (Seed)	..	Killarney	15·2	3·1	77·2	2·4	2·1	·020	·892	

1999	September	Dwarf Pink (Seed)		Warwick	14·4	3·3	77·9	2·8	1·6	·027	·849	
2000	September	Wheatland Milo (Seed)		Evanslea	14·0	2·9	78·5	3·0	1·6	·027	·713	
2018	October	Yam		Mackay	7·5	0·13	86·0	2·0	4·4	·151	·884	Starch 59·6 per cent.
2019	October	Cassava		Mackay	2·7	0·4	77·4	8·1	11·4	4·028	·231	
2436	October	Paspalum Ensilage		Maleny	8·5	1·5	43·7	39·4	6·9	·622	·614	
2987	December	*Typha angustifolia*	Bullrush	Gatton	4·2	1·0	47·0	36·3	11·5	·887	·415	
4210	March	*Setaria italica*, No. I.		Yeerongpilly	13·0	1·4	44·0	26·9	14·7	1·198	·861	Grown after lucerne.
4211	March	*Setaria italica*, No. II.		Yeerongpilly	6·2	1·2	52·1	29·7	10·8	·808	·553	Without lucerne.
4247	March	*Cynodon* sp.		Nerang	19·8	1·0	33·2	19·0	27·0	·72	·955	HCN } no emulsin +ve } with emulsin very strong.
4732	April	Brigalow Leaves		Inglewood	13·7	2·3	49·4	29·3	5·3	1·691	·288	Mostly from brigalow suckers.
4771	May	*Panicum muticum*			14·8	1·3	45·7	26·7	11·5	·754	·636	Young growth.
4890	May	Hay		Blackall	5·3	2·0	52·6	29·6	10·5	·611	·310	K$_2$O 1·286 per cent., So$_3$ 0·67 per cent., Cl 0·714 per cent. = 1·178 per cent. Na Cl. Consists almost entirely of *Astrebla lappacea* with a slight admixture of *Astrebla pectinata*, *Iseilema membranaceum*, *Iseilema vaginiflorum*, *Sporobolus pallidus*, and *Bassia quinquecuspis*.
5028	May	Maize		Atherton	8·9	4·0	81·3	4·3	1·5	·063	·707	Re possibility of composition of maize grain being altered by increasing fertility of soil through ploughing in of green leguminous crops and subsequent cropping of maize.
5715	May	Hay (Flinders and Mitchell Grass)		Longreach	5·4	·5	46·3	35·4	12·4	·388	·187	27 years old.
5930	June	*Heleocharis dulcis*		Ayr	5·8	·5	78·5	5·1	10·0	·105	·511	Starch (included in Carbohydrates) 63·2 per cent.
1087	August	Rhodes		Biloela	3·5	·8	48·6	36·9	10·2	·639	·394	Grown on alluvial medium clay loam. Uncut till Spring.
1088	August	Rhodes		Biloela	2·4	·7	49·6	37·4	9·9	·391	·377	Grown on alluvial medium clay loam. Uncut till Spring.
1089	August	Rhodes		Biloela	2·7	·9	52·0	37·3	7·1	·353	·474	Grown on alluvial medium clay loam. Uncut till Spring.
1090	August	Rhodes		Biloela	2·7	·8	50·5	33·8	12·2	·391	·431	Grown on alluvial medium clay loam. Uncut till Spring.
1091	August	Rhodes		Biloela	2·6	·7	47·0	39·1	10·6	·514	·450	Grown on alluvial medium clay loam. Uncut till Spring.
4612	April	Rhodes		Biloela	10·3	1·3	43·3	33·2	11·9	·523	·788	Grown on alluvial heavy clay loam, following cotton.

Table III.—ANALYSES OF PASTURE GRASSES, ROUGHAGE, HERBAGE, AND SHRUBS—*continued.*

Number of Analysis.	Month Cut.	Name of Grass, Herbage, or Shrub.	Local Name.	District.	Analysis of Water-free Material.							Remarks. (Chiefly made by senders).
					Crude Protein.	Crude Fat.	Carbohydrates.	Crude Fibre.	Crude Ash.	Lime, CaO.	Phosphoric Acid, P_2O_5.	
					%	%	%	%	%	%	%	
4613	April ..	Rhodes	..	Biloela	12·7	1·3	41·6	33·1	11·3	·603	·806	Grown on alluvial heavy clay loam, following fallow.
5734	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·6	51·6	34·3	8·6	·399	·774	Grown on alluvial sandy clay.
5735	May ..	Rhodes Grass Hay	..	Biloela	4·2	1·3	51·9	33·0	9·6	·439	·657	Grown on alluvial sandy clay.
5736	May ..	Rhodes Grass Hay	..	Biloela	4·2	1·3	53·4	32·1	9·0	·414	·647	Grown on alluvial sandy clay.
5737	May ..	Rhodes Grass Hay	..	Biloela	4·2	1·4	52·9	31·9	9·5	·462	·796	Grown on alluvial sandy clay.
5738	May ..	Rhodes Grass Hay	..	Biloela	3·7	1·3	54·7	31·5	8·8	·437	·677	Grown on alluvial sandy clay.
5739	May ..	Rhodes Grass Hay	..	Biloela	4·1	1·0	52·8	33·3	8·8	·465	·701	Grown on alluvial sandy clay.
5740	May ..	Rhodes Grass Hay	..	Biloela	4·4	1·2	52·8	33·4	8·2	·379	·611	Grown on alluvial sandy clay.
5741	May ..	Rhodes Grass Hay	..	Biloela	4·2	1·2	50·9	34·9	8·8	·414	·724	Grown on alluvial sandy clay.
5742	May ..	Rhodes Grass Hay	..	Biloela	4·1	1·4	51·1	33·3	10·1	·511	·838	Grown on alluvial sandy clay.
5743	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·1	51·6	34·7	8·6	·306	·678	Grown on alluvial sandy clay.
5744	May ..	Rhodes Grass Hay	..	Biloela	4·5	1·1	52·4	33·3	8·8	·441	·766	Grown on alluvial sandy clay.
5745	May ..	Rhodes Grass Hay	..	Biloela	4·7	1·3	49·2	34·0	10·7	·539	·857	Grown on alluvial sandy clay.
5746	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·5	49·1	35·3	10·2	·461	·689	Grown on alluvial sandy clay.
5747	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·3	50·6	34·3	9·7	·426	·724	Grown on alluvial sandy clay.
5748	May ..	Rhodes Grass Hay	..	Biloela	3·8	1·2	49·3	35·2	10·5	·372	·722	Grown on alluvial sandy clay.
5749	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·3	50·5	34·2	10·1	·397	·718	Grown on alluvial sandy clay.
5790	May ..	Rhodes Grass Hay	..	Biloela	4·2	1·4	51·4	33·3	9·7	·374	·765	Grown on alluvial sandy clay.
5791	May ..	Rhodes Grass Hay	..	Biloela	3·9	1·3	50·7	34·4	9·7	·424	·700	Grown on alluvial sandy clay.

Table IV.—ANALYSES OF SORGHUM SEEDS, AS RECEIVED FROM ROMA.

Analysis No.	Variety and Number.	Moisture.	Protein.	Carbohydrates.	Fibre.	Fat.	Ash.	Lime (Ca O).	Phosphoric Acid (P_2O_5).
		%	%	%	%	%	%	%	%
5716	American Early Red (No. 1)	14·9	9·2	68·3	2·4	3·3	1·9	·018	·651
5717	Black Hull C.I. 71 (No. 2)	16·3	6·6	67·1	4·9	3·0	2·1	·023	·664
5718	Brown Yolo (No. 3)	14·8	6·3	68·9	5·5	2·5	2·0	·023	·586
5719	Day Milo (No. 4)	14·2	7·3	67·5	5·4	2·8	2·8	·043	·652
5720	Dwarf Pink (No. 5)	15·7	7·7	68·4	3·1	3·1	2·0	·022	·819
5721	Dawn (No. 6)	16·8	5·6	67·6	5·8	1·9	2·3	·039	·576
5722	Giza 20 (No. 7)	12·1	7·6	72·2	3·2	3·0	1·9	·028	·722
5723	Hegari (No. 8)	14·3	5·9	71·2	3·5	2·7	2·4	·032	·809
5724	Kalo Kalo (No. 9)	12·8	5·6	71·4	4·6	2·8	2·8	·032	·854
5725	Pietersberg White (No. 10)	14·6	5·4	71·7	3·3	2·8	2·2	·035	·791
5726	Pot. Dawn (No. 11)	13·1	6·3	71·5	4·5	2·3	2·3	·032	·643
5727	Reed (No. 12)	15·9	5·4	70·6	3·1	2·8	2·2	·039	·722
5728	Redfort Hayes (No. 13)	14·6	6·1	70·7	4·1	2·5	2·0	·027	·722
5729	Standard Milo (No. 14)	14·0	6·0	69·7	4·4	3·2	2·7	·042	·860
5730	Wheatland Milo (No. 15)	14·3	6·4	70·2	4·4	2·4	2·3	·042	·586
5731	Western Black Hull Kaffir (No. 16)	16·3	7·4	67·0	4·0	2·8	2·5	·039	·834

REPORT OF THE GOVERNMENT BOTANIST.

The work of the Branch is mainly advisory, and the inquiries submitted extended over a wide range of subjects relative to plant life, and this service is now being availed of more widely by farmers and pastoralists. The number of specimens submitted continues to increase. A large number was again received from the Department of Public Instruction, particularly from scholar secretaries of school, grass and forage project clubs, and from teachers desirous of having reports on specimens suitable for nature study classes. Where the replies to inquiries submitted were deemed to be of more than individual interest they have been utilised by the Editor of the departmental publications for the pages of the *Queensland Agricultural Journal*.

GRASS AND HERBAGE INVESTIGATIONS.

A pasture research laboratory has been established at Blackall. Its chief object is to determine as far as possible the soil requirements, rainfall requirements, and grazing reaction of the principal species of pasture plants, paying particular attention to Mitchell grasses and their regeneration after drought.

Two aspects of the work are being investigated, viz.—(1) grazing trials in selected plots in various parts of Western Queensland; and (2) investigation of the life histories of the principal pasture species, commencing with the Mitchell grasses.

Mr. S. L. Everist, Assistant to Botanist, who commenced duties at Blackall in March of this year, reports briefly:—

With one exception, the plots selected have now been fenced for about eighteen months. They were selected originally on sites where the Mitchell grasses were rather sparse, following drought conditions. In all cases the plots show a marked increase in the quantity of grass. Adjacent paddocks have, however, also shown an increase, which is due undoubtedly to the good seasons which have prevailed since the plots were established. A good season consists apparently of storm rains in early summer, followed by general rains—250 points or more—in February or March, provided the later rains are not followed immediately by a cold snap. This seems to represent the best season for the spread of Mitchell grasses.

So far, the only difference between the plots and adjacent paddocks is that the trial areas contain a greater quantity of herbage plants—such as *Malvastrum spicatum, Sida,* spp., *Salsola Kali, Portulaca oleracea* (at times), *Rhynchosia minima, Bassia echinopsila* and, in some places, *Amarantus Mitchellii.* This is due to the fact that stock eat these herbage plants in preference to the Mitchell grasses.

Another marked feature is that the plots which grew such a heavy crop of Flinders grasses (*Iseilema membranaceum* and *I. vanginiflorum*) during the 1935-36 summer still carry the dry stalks on the ground, whereas in the adjoining paddocks the sheep have eaten these out completely. In most places, the growth of Flinders grasses during last summer was not nearly so heavy as in the previous summer. The cause is to be found, probably, in the fact that the early rains were too light and the March rains too late to produce a heavy body of Flinders grasses.

The soil of most of the plots is gradually becoming more open with a tendency to crack. It will be interesting to see how far this tendency will develop.

The portions of the plots designed for grazing will be stocked with sheep in the near future, and some interesting results may be expected.

The work on the life history of the principal pasture grass of this region, i.e., Curly Mitchell grass (*Astrebla lappacea*) has begun.

It will be a long time, however, before it will be possible to say with certainty just what changes in a pasture are due to climatic changes and what are due to grazing.

PROTECTION OF NATIVE PLANTS.

The Native Rhododendron (*Rhododendron Lochae*) has been added to the list of plants protected by law.

LECTURES.

The following lectures were delivered in the course of the year:—

August 10th.—Three lectures on Grasses, Weeds, and School Collections before headmasters of State Rural Schools.

August 20th.—Plants Poisonous to Poultry and Pigs. Broadcast.

September 2nd.—Plants Poisonous or Harmful to Live Stock. (Pig and Poultry Farmers' School, Gatton.)

September 14th.—Flora of North Queensland. (North Queensland Naturalists' Club, Cairns.)

October 11th.—Honey Flora of South-eastern Queensland. (Bee-keepers' Field Day.)

October 29th.—Queensland Trees. (Tree-lovers' League.)

POISONOUS PLANTS.

A large number of specimens of plants suspected of being poisonous to stock was received from pastoralists and dairy farmers in different parts of the State. As in previous years, records of the more important are made herewith as a small contribution towards our knowledge of this important subject.

Family *Meliaceae.*

Melia dubia (White Cedar).—Specimens received from a Blenheim farm on which it was reported that about 40 head of dairy stock had been lost. The stock that died were not in a poverty-stricken condition, but had eaten leaves of white cedar during dry weather.

Family *Leguminosae.*

Acacia implexa (Broad-leaved Sally Wattle).—The Stock Inspector at Boonah reported that this tree had been cut for stock during a dry time and several losses had resulted. The trees when cut were very heavy with green pods and it was presumed that the pods were responsible for the trouble, *Erythrina vespertilio* (Cork Wood or Coral Tree).—Specimens received from a property near Raglan, with the following note (5th November, 1936):—"I am posting you a small package containing the flowers, seed-pods and leaves of stem of a tree, locally known as cork wood, which I think may be Indian coral tree (*Erythrina*). Would you please be good enough to inform me if any part of the tree is poisonous to stock, more especially cattle, as some of my cattle grazing in a paddock in which some of these trees are growing have been dying, as if from disease, or poison of some kind. The stomachs of the cattle become distended like hoven. The cattle sicken and hang about and die after a few days. The grass is very dry, only a little green shoot at the bottom, so it is not from too much succulent green feed. I have been told that the flowers and seed pods are poisonous to cattle."

Erythrophloeum Laboucheri (Northern or Poisonous Ironwood).—When at Mount Carbine in September I was informed that the leaves of this tree, in spite of their very poisonous character, form the favourite food of the opossum. The information was obtained through several sources, and experienced bushmen and trappers were very emphatic on the point.

Leucaena glauca (Vi Vi).—Mr. N. A. R. Pollock, Senior Instructor in Agriculture, writing under date 1st September, 1936, stated:—"Some fifteen years ago note was taken of the partiality of stock, horses and cattle, to the foliage of a shrubby growth, *Leucaena glauca*, commonly known as Vi Vi. On looking up references, it was noted that in Hawaii (I think) when horses ate freely of it they suffered loss of hair from both mane and tail. The analysis from the Department, 29/10/21, was as follows:—

Leaves and Twigs.

Moisture	8·06
C. protein	25·75
Carbohydrates	46·55
Crude Fibre	9·00
Crude Fat	2·64
Ash	8·80

As you know, the shrub is quite naturalised in North Queensland. A thicker growth was noted at Macknade on the Herbert River and again at Bowen, the sample for analysis being secured at the latter place." When in Bowen in July last, Mr. Pollock was reminded of a conversation he had had with a local stockowner, some fifteen years ago, whom he informed of the legend concerning loss of hair from mane and tail. The stockowner vouched for its truth. "He had a horse running during a dry period in a paddock where there was little else than Vi Vi for its consumption. Though it retained good condition and appeared normally healthy the hair fell out of the mane and tail, though not from other parts of the body. Transferred to another paddock in which there was no Vi Vi the hair commenced to grow again on the denuded parts."

Melletia megasperma (Native Wistaria).—A Eumundi stockowner wrote under date 4th November, 1936:—"I have recently lost two young heifers. Mr. Anderson, Dairy Inspector, Gympie, examined the stomach of one and found the cause of death to be poison of some kind, the lining being quite gone from the stomach. I have made a careful examination of the paddock, which is clean and well grassed. There is about an acre of scrub also clear of undergrowth, but there is one vine of native wistaria. The young shoots of this plant have all been eaten off and a man working here noticed this and said that he had lost thirteen head of young stock at Kin Kin from eating this plant. I am sending a sample to be analysed, or perhaps you would know if this plant would kill cattle. If you could supply this information I would be very grateful."

Family *Combretaceae*.

Terminalia porphyrocarpa (A Yellow Wood).—Mr. Marshall R. Irving, Government Veterinary Surgeon, Rockhampton, wrote under date, 23rd December, 1936:—"I am forwarding under separate cover a specimen of a plant from the Raglan district, known locally as 'Yellow Wood.' This is thought to be responsible for mortality in cattle in this area. I should be pleased if you would classify the specimens for me and indicate any evidence of its toxicity or otherwise to stock."

Family *Onagraceae*.

Jussiaea repens (Willow Primrose).—Reported from Brisbane district as a suspected poisonous plant.

Jussiaea suffruticos (Willow Primrose).—Received from Gympie district as a suspected plant.

Family *Rubiaceae*.

Coelospermum reticulatum.—When at Mount Carbine in September, where this shrub is very common, I was informed it was known locally as medicine plant and was regarded as very poisonous.

Family *Compositae*.

Verbesina encelioides (Wild Sunflower).—Specimen received from Warra under date 13th March, 1937, with the following note:—"I am enclosing a wild sunflower plant. Could you tell me if it is poisonous to sheep? It has been along the Wambo Creek for years, but have not suspected it before, but there is more of it this year. The sheep have eaten all the plant but the stalks in places. I have found four dead sheep; there may be more. It only appears to be eaten when the leaves are dead or wilted. There is plenty of feed in the paddock."

Xanthium pungens (Noogoora Burr).—It was reported by Mr. C. R. Mulhearn, Acting Director of the Animal Health Station, Oonoonba, North Queensland, that eleven animals out of a mob of fifty dairy cows had died in the Proserpine district, and that the symptoms pointed to poisoning by Noogoora burr, which was present in great abundance in the seedling stage and in somewhat later stages.

Family *Asclepiadaceae*.

Asclepias fruticosus (syn. *Gomphocarpus fruticosus*).—Wild Cotton or Balloon Cotton. Mr. G. R. Sigley, Stock Inspector, Biggenden, reported that he had examined paddocks where trouble among dairy cattle from gastro-enteritis had occurred, but no deaths. Wild cotton was represented by two varieties, the red one, which had not been touched, and the white one, which had been eaten by stock. He stated that beside the usual gastro-enteritis symptoms the affected cows would bite the ground, railings of the yard, and their own front feet. He found milk very effective for the treatment of the animals.

Family *Solanaceae*.

Datura Leichhardtii (Native Thorn Apple).—Mr. S. L. Everist, writing from Blackall, stated he had examined areas in the Clermont district in March of this year in which several losses of sheep from eating poisonous weeds had been reported. He found that native thorn apple plants showing signs of having been freely eaten. The plant is very common on the black soils of the Peak Downs district, particularly in small yards and paddocks, near gates and watering places and similar situations, where the ground is much trampled by sheep. Sheep do not often eat the plant, but when large mobs are put into small paddocks—such as holding paddocks—during crutching or shearing operations, losses are likely to occur. It was under these conditions that the recent Clermont losses were experienced. Affected animals usually drop to the ground in a sort of rigid spasm or convulsions and die almost immediately. They froth slightly at the mouth, and the lips, tongue, and gums become blue after death.

Solanum esuriale (Potato Bush or Wild Tomato).—Writing from Oorindi, under date 26th April, 1937, a grazier reported that he had had losses amounting, so far, to 15 out of 80 Bundemar rams from Trangie, New South Wales. The circumstances were related as follows:—"Rams arrived Oorindi Siding, Thursday evening, 22nd, and fed on oaten hay in yards during night. Driven seven miles to station the following morning after allowing them to fill up on a patch of green Mitchell and Flinders grass where no weeds present. Watched carefully to see they ate no quantity of weeds on way out and watered on arrival about 11.30 a.m., then yarded for a couple of hours and given hay. Then let go in a small paddock about 150 acres where feed was green, chiefly Mitchell and Flinders grass, with very little button grass or weeds, except some patches of wild tomato and tar vine, close to water. About 9 a.m. the following morning one was found dead and another dying. The rest seemed quite all right and feeding about on Mitchell and Flinders, and also noticed eating a little tar vine and wild tomato plant. About 1 p.m. another found dead and three more dying; the latter were dosed with *spiritus ammoniae aromaticus*, but all died. The rest were then yarded and fed on chaff and Meggit's nuts. About 9 p.m. that night three more were dead. The following morning (Sunday) two more were dead and another died about 10.30 a.m. and two more during the afternoon. They were tailed out on Mitchell and Flinders for one and a half hours in the afternoon. Out of two that were sick that evening, one was given castor oil and this morning seemed all right; the other died during the night.

"*Symptoms.*—When first noticed to be sick the ram stands with head lowered, later humps his back. Some time later, an hour or two possibly, breathing becomes heavier and he will walk or trot blindly ahead till he hits a fence and stands with head pressed hard against it, perhaps for a quarter of an hour, then collapses, probably on belly, eventually rolling on one side, and in about another quarter of an hour dies. For about the last half hour, the sheep is breathing very heavily. They do not look to be greatly blown up, if at all, before death. Post mortems disclosed a number of wild tomato pods in paunch of about eleven out of fifteen, two of the last three to die not having them. All showed what looked to me like slight traces of blood in the intestines. Organs otherwise appeared normal, except for the lungs, which in about twelve out of fifteen were large and discoloured. I am pretty sure the rams never went more than about 200 yards from the water after they were let go in the paddock until yarded next day. There was plenty of green feed within this distance and the only weeds were practically wild tomato and tar vine. I would like your opinion as to whether wild tomato would be responsible."

Solanum tuberosum (Potato).—Mr. A. F. S. Ohman, Government Veterinary Officer, Toowoomba, reported that on 22nd October, 1936, it was reported to him that seven head of dairy cows had died suddenly on a property near Helidon in the afternoon of the previous day. Arrangements were made to visit the property in the company of the District Inspector of Stock, Toowoomba. From information gathered from owners, it appears that because of a paucity of green feed it was resolved to feed English potato tops to the cattle. On Monday, 19th October, 1936, a corn bag full was given them, on the following day four bags were fed, and on the Wednesday morning (the day of the deaths) five were provided for the stock. At 1 o'clock on the Wednesday the cattle were noticed, but without untoward symptoms, and at 6 o'clock that evening, when the milking mustering took place, seven were found dead. The rumen was very full in both cases and potato tops constituted a considerable portion of the ingesta. In one case, the abomasum appeared considerably congested. Other organs appeared to be normal. Extremely dry conditions existed throughout the district. It would appear that the ingestion of the potato tops had been instrumental in causing the deaths of the cattle.

Family *Myoporaceae*.

Eremophila maculata (Native Fuchsia, *Myporum deserti* (Ellangowan Poison Bush).—Writing from Longreach under date 14th May, 1937, the District Inspector of Stock (Mr. C. C. Barth) reported:—"I am posting a specimen of a shrub which I collected in the Blackall district during the week. Recently, a mob of mixed cattle passed through country covered by this small shrub, and after travelling a further ten miles several died, and odd cattle died at intervals in the course of two or three days afterwards. A selector in the locality named the shrub as Ellangowan poison bush and stated that it was responsible for the deaths among the cattle. The shrub has a small white flower. There is also a fair quantity of fuchsia bush in flower in the same area, and it appears that either the shrub or the fuchsia bush is responsible for the losses. . . . The poisoning occurred on the Blackall-Jericho road about 23 miles from Blackall, and I drove out to the spot with Mr. Everist, of Blackall. There were about 450 mixed cattle in the mob and about ten cows died within a few days."

Family *Amarantaceae*.

Alternanthera repens (Khaki Weed).—It was reported to me verbally that a farmer in the Goondiwindi district found that his pigs were very fond of khaki weed. After a couple of days, however, losses among the pigs occurred; possibly the sharp chaffy scales of the flower caused mechanical injury.

Family *Chenopodiaceae*.

Bassia anisacanthoides.—Received from Animal Health Station, Oonoonba, with the report that the weed was suspected as causing trouble in untrucked rams and that 35 out of a total of 134 had died.

Family *Phytolaccaceae*.

Codonocarpus australis (Bell Fruit or Native Poplar).—Received from Toogoolawah as strongly suspected of causing the deaths of working bullocks.

Family *Polygonaceae*.

Polygonum orientale (Oriental Smart Weed).—A Boompa farmer wrote:—"I enclose specimens of a weed growing in my pig yard and would like to know if you can advise if it is poisonous. I have lost five young pigs lately and have a suspicion that eating this weed might be the cause. No more have died since putting the pigs in another paddock free from this weed, except one porker shut up with some weaners in a bare yard in which one plant only was growing and had evidently been eaten."

Family *Euphorbiaceae*.

Phyllanthus Fuehrenrohrii.—Specimen received from Four Pegs, with the following note, under date, May 20th, 1937:—"We are enclosing a plant which we believe to be poisonous to sheep, and would be pleased if you would analyse it and tell us what you can about it. We have a lot of sheep travelling by road and they will be here in two weeks from now, and, if possible, we would like to have your advice before they arrive."

Family *Pandanaceae*.

Pandanus, sp.—A Calen stockowner wrote, under date 25th April, 1937:—"I should also be pleased to know if grass trees or pandanus cause cattle to become sick and emaciated with a touch of scours to start with. I had some young stock on forest with grass trees and pandanus, and one after another they would become affected, until only one remained fat. I then removed them, and it took over two months on good grass to regain their condition. I could not find any weed in the paddock that was poisonous, but nearly all the grass trees and young pandanus suckers had the hearts eaten out."

Family *Liliaceae*.

Xanthorrhaea sp.—See note under previous heading—*Pandanaceae*.

Family *Gramineae*.

Dactyloctenium radulans (Button Grass).—Writing from Blackall, Mr. S. L. Everist, Assistant to Botanist, reported under date 25th February, 1937:—"Early yesterday morning I received an urgent telephone call from a property 83 miles from Blackall. The owner explained that of seventy-six weaners which had been left in a small area overnight forty-eight had been found dead. He suspected poisonous plants, and asked me to investigate. On arrival, we ascertained that the circumstances were as follows:—A number of mixed weaners, five to seven months old, were brought in on Sunday afternoon for dagging. They were kept in a small paddock on Sunday night, and dagging operations commenced on Monday, all the sheep being kept in a yard during Monday. Some of them were kept yarded on Monday night, and of these all except seventy-six were treated on Tuesday. On Tuesday night these seventy-six were allowed the use of three small yards and a paddock with access to water. Early Wednesday morning forty-eight of them were dead—cold, stiff, and blown up. The stomach contents of two of the sheep were retained, and these were examined carefully. They consisted almost entirely of the leaves, stalks, and seedheads of button grass (*Dactyloctenium radulans*), together with very small quantities of pigweed (*Portulaca oleracea*) and Leopardwood (*Flindersia maculosa*). The yards were examined and found to contain mostly young green button grass, with small quantities of pigweed, tar vine (*Boerhaavia diffusa*) and bull head (*Tribulus terrestris*). The only plants showing signs of extensive grazing were button grass. In addition to the above, the pocket with access to water contained trees of dead finish (*Albizzia* *basaltica*), leopardwood (*Flindersia maculosa*), whitewood (*Atalaya hemiglauca*), and currant bush (*Carissa lanceolata*). All these are trimmed off above the reach of sheep, and therefore only fallen leaves were available to them. The sheep had fallen without any sign of struggle, and most of them were close to the water. The owner remarked that the livers were very dark and discoloured, and that a light amber-coloured liquid exuded from the mouth and nostrils of the dead sheep. The stomach contents, too, were very wet with the same liquid. In the absence of a veterinary officer I was unable to say definitely what was the cause of death. However, it appears possible that a large feed of fresh green button grass, plus a heavy drink of water, caused the sheep to bloat and die. They were quite empty when turned into the grazing yards. Button grass is undoubtedly an excellent fodder for sheep, but a similar experience at Richmond some years ago seems to indicate that much fresh green button grass is fatal to starving sheep. A rough test for HCN by the sodium picrate method gave negative results, but this, of course, is not conclusive evidence of its absence. It was impossible to obtain a large enough sample for analysis."

Sorghum verticilliflorum (Wild Sorghum).—Received from Mundubbera with the report that the deaths of two cows followed very quickly after eating this grass.

HERBARIUM.

The rearrangement of the fern herbarium referred to in my last report is now virtually complete. An index will be compiled for it, and this will simplify identifications of these plants considerably.

There is a keen demand for Queensland specimens on an exchange basis. Exchanges have been continued with the Royal Botanic Gardens, Kew (England), the Botanic Gardens, Singapore, Straits Settlements, Botanic Gardens, Buitenzorg, Java, Dutch East Indies, New York Botanic Gardens, and the Arnold Arboretum, Boston, U.S.A., and Dr. Otto Degener, Honolulu.

We are indebted to the Director of Kew for the critical examination and determination of many specimens submitted, particularly of introduced weeds, of which it is necessary to have the correct botanical identity.

Several specimens have been sent to the Botanic Gardens, Berlin, for examination by specialists, and our thanks are due to the Director of the Botanic Gardens and Museum (Dr. L. Diels) for help in this matter.

Specimens of eucalypts have been submitted from time to time to Mr. W. F. Blakeley, of Sydney, the well-known authority. A considerable number of specimens during the year have been sent to the National Herbarium, Melbourne, and my thanks are due to the Government Botanist and Director, Mr. F. J. Rae, for comparing specimens with types and for the loan of type material.

Several field journeys were undertaken in the course of the year, the two most important being to Mount Spurgeon, North Queensland, in September, and to the Callide Valley in May. The former yielded a very interesting lot of material, including several little-known or previously undescribed plants. A lot of collecting was done on the latter tour, which was made specially in connection with the ecological survey being undertaken by the Cotton Section of the Department. In the period from December to February, Messrs. S. L. Everist and L. Smith undertook a tour of the far west, and a large number of specimens were gathered, some of these being new records for the State, and others apparently undescribed.

Large numbers of specimens were received from the North Queensland Naturalists' Club, Cairns, and other correspondents, and when sufficiently interesting have been incorporated in the Herbarium.

PUBLICATIONS.

The most important publication during the year was "Principles of Botany for Queensland Farmers," which appeared from month to month in the *Queensland Agricultural Journal*. The work has a strong agricultural bias with special reference to Queensland conditions.

Other papers have appeared from time to time in the *Queensland Agricultural Journal*, and items have been supplied regularly for the *Weekly News Bulletin*.

C. T. WHITE,
Government Botanist.

REPORT OF THE SEEDS, FERTILIZERS, VETERINARY MEDICINES, PEST DESTROYERS, AND STOCK FOODS INVESTIGATION BRANCH.

INSPECTIONAL DUTIES.

During the year, in addition to the supervision exercised in Brisbane, visits were made to the following towns by inspectors under the several Acts administered by this Branch; the figures following each town set out the respective numbers of visits made:—Ayr, 1; Alligator Creek, 1; Alma Den, 1; Babinda, 1; Bowen, 1; Brooweena, 1; Biggenden, 1; Calcium, 1; Chillagoe, 1; Dallarnil, 1; Garbutt's Siding, 1; Gordonvale, 1; Home Hill, 1; Ipswich, 2; Ingham, 1; Innisfail, 1; Jaffa, 1; Mackay, 1; Maryborough, 2; Mossman, 1; Mungana, 1; Mingela, 1; Manton, 1; Mount Larcom, 1; Murarrie, 1; Ootann, 1; Proserpine, 1; Rockhampton, 1; Ross River, 1; Reid River, 1; Stanthorpe, 2; Southport, 1; Toowoomba, 3; Townsville, 1; Tully, 1.

Compared with last year, it shows that nineteen more towns were visited, and only five return visits were necessary, against twelve of last year. Return visits are usually made to enable suitable action to be taken to remedy matters that were found to be out of order—such as the disposal of seed that does not comply with the prescribed standards.

PUBLICATIONS.

The following contributions by members of this Branch were made to the "Queensland Agricultural Journal":—"Seeds Every Farmer Should Know—Sudan and Johnson Grass Seeds"; "Lime for Agricultural Purposes"; "Spraying Oil Concentrates"; "Interpretation of Stock Food Labels"; besides 15 contributions to the "Weekly News Bulletin."

ACKNOWLEDGMENTS.

Agricultural Chemist.—Four hundred and twenty-five samples were analysed for this Branch by the Agricultural Chemist, an increase of 192 samples over last year.

Considerable assistance has been rendered to this Branch by the officers of the Fruit and Stock Branches stationed in distant towns—in particular, by the former in the Stanthorpe area.

SEEDS ACTS, 1936-1937.

During the year, 4,913 samples were examined at the Seed Testing Station, the actual tests carried out numbering 5,879. The following table gives details of the figures concerned:—

Seed Samples Received from—	Number of Samples.
Seed vendors	1,208
Growers selling seeds	127
Inspectors under the Seeds Acts	1,171
Inspectors under the Commerce Acts ..	1,919
Farmers who have purchased seed for their own sowing (examined free)	24
Government Departments	227
Referee samples	18
Repeat and experimental tests	1,185
Total germination tests	5,879

The number of seed samples received from vendors and inspectors under the Acts has increased by 589 and 559 respectively over the previous year's figures. The total of germination tests has risen from 2,916 to 5,879, an increase of 2,963.

FAULTY SEEDS FOR SOWING.

The following table sets out the action taken under supervision of an inspector with respect to seeds which were offered for sale as seed for sowing, and were found not to comply with the standards prescribed on account of the reasons set out :—

Lots.	Quantity.	Kind of Seeds.	Reasons for Action.	Action Taken.
2	480 lb.	Beans, Canadian Wonder	Low germination	Sealed and seized
2	5 lb.	Beet	Low germination	Destroyed
19	18½ lb.	Cabbage	Low germination	Destroyed
6	58½ lb.	Carrot	Low germination	Destroyed
6	4 lb.	Cauliflower	Low germination	Destroyed
2	1½ bags	Cocksfoot	Low germination	Destroyed
2	1½ bags	Couch Grass	Low germination	Destroyed
6	17 lb.	Cucumber	Low germination	Destroyed
5	5 lb.	Kohl-rabi	Low germination	Destroyed
4	3 lb.	Leek	Low germination	Destroyed
8	5 lb.	Lettuce	Low germination	Destroyed
1	2 lb.	Mangel	Low germination	Destroyed
6	13½ lb.	Marrow	Low germination	Destroyed
7	4½ lb.	Melon	Low germination	Destroyed
1	½ bag	Millet, Japanese	Low germination	Sealed and seized
1	19 bags	Oats	Excessive amount of weed seeds	Cleaned
27	44 lb.	Onion	Low germination	Destroyed
1	11 bags	Paspalum	Low germination	Sealed and seized
1	2½ lb.	Parsnip	Low germination	Destroyed
2	3 lb.	Parsley	Low germination	Destroyed
7	437 lb.	Peas	Low germination	Crushed
1	10 bags	Peas	Low germination	Returned to state of origin
6	47½ lb.	Pumpkin	Low germination	Destroyed
5	15½ lb.	Radish	Low germination	Destroyed
4	183 lb.	Rye Grass	Low germination	Destroyed
2	2 bags	Setaria	Low germination	Destroyed
7	6½ lb.	Squash	Low germination	Destroyed
1	30 lb.	Sudan	Low germination	Destroyed
2	360 bags	Sudan	Excessive inert matter and Datura	Recleaned
1	25 bags	Sudan	Contained Datura	Sealed and seized
1	6 lb.	Sunflower	Low germination	Destroyed
1	1½ lb.	Swede	Low germination	Destroyed
1	20 lb.	Teosinte	Low germination	Destroyed
1	1 lb.	Tobacco	Low germination	Destroyed
19	12½ lb.	Tomato	Low germination	Destroyed
13	24½ lb.	Turnip	Low germination	Destroyed
1	271 pkts.	Vegetable and Flower Seeds	Low germination	Destroyed
120	142½ lb.	Miscellaneous	Low germination	Destroyed

Miscellaneous consists of :—Brussels Sprouts, Butter Beans, Pole Beans, Borecole, Celery, Chou Moellier, Cress, Mustard, Okra, Sea Kale, Spinach.

Farmers who have purchased seeds for their own sowing have availed themselves of the "free examination and report" service, to the extent of only twenty-four samples. The smallness of this number can only be interpreted as meaning either that buyers for their own sowing are well satisfied, or are not particularly interested in the quality of their purchases.

The table on the following page sets out the various weed seeds that have been found in the samples of farm seeds examined at the Seed Testing Station. The last list was published in the 1933-34 Annual Report, and upon comparison it will be seen that the following weed seeds mentioned in 1933-34 did not appear during the year under review:—*Malva parviflora* and *Melilotus parviflora*.

Datura sp. (Thorn Apple), a prohibited weed seed, appears twice respectively, for *Setaria italica* (Panicum) and Japanese Millet, and twenty-seven times in Sudan grass seed.

All species of *Datura* are poisonous. Live stock, however, avoid the growing plant, no doubt on account of its unpleasant taste and its disagreeable odour. The seeds are enclosed in thorny capsules, and are highly poisonous. Drying the plant or seeds does not destroy the poisonous principle. As all parts of all species are poisonous, there is a total prohibition of all *Daturas*.

In other countries, cases are recorded in which cattle have been poisoned by eating the leaves of the young plants in hay. In Queensland, it is known that on several occasions it has caused the loss of horses. In most cases the horses were fed on chaff containing a considerable number of *Datura* seeds.

Datura seeds can be expected in samples of Sudan, white French millet, Japanese millet, white panicum, foxtail millet (*Setaria*), canary, and sometimes in prairie, barley, lucerne, and oats. It therefore follows that when any of these crops are saved for hay the presence of *Datura* may be expected, particularly so when this objectionable weed has been permitted to seed with the previous crop.

REVISION OF FEES.

In order to provide more encouragement for seed vendors to make use of the Seed Testing Station, a twelve months' trial has been given to a scheme involving reduced fees for analysis of seed. The scheme includes the following:—

(*a*) 2s. 6d. per sample, or

(*b*) £3 10s. for the first fifty samples, and thereafter 1s. per additional sample tested during the twelve months ending 30th June—providing the sum of £3 10s. shall be paid in advance.

The conditions attached to the concession were that it would be automatically withdrawn from any person, firm, or company who commits a breach of the "Pure Seeds Acts." The response so far has been gratifying; seven sellers of seeds for sowing took advantage of the scheme, with the result that the fees collectively paid by them rose from £20 for 1935 and £29 for 1936 to £39 3s. for 1937 under the revised scheme. One firm alone paid under the new scheme £18 3s. for 343 samples for the current year.

The underlying principle is based upon the essential fact that by the Department helping the seed vendor to be a more discriminating purchaser, the buyer of seeds for his own sowing will receive a better article.

RHODES GRASS CROP.

During the year an abnormal number of Rhodes grass samples—458 for the current year against 117 for the previous year—were submitted for examination, because of the very heavy crop harvested this year. The germination of these samples was high, due, no doubt, to most of the seed in question being harvested by hand; by this method the kernels are not shattered to the same extent as when harvested by machinery.

SAMPLING OF SEEDS.

There seems to prevail an idea that drawing representative samples of seeds is a simple matter; the fallacy of such an idea is an ever-recurring fact in our experience. The following will serve to illustrate what actually occurs when the unskilled draws samples.

First let us consider for what purpose samples are drawn. In the case of seeds for sowing, the interested parties are concerned as to whether the seeds being sold comply with the prescribed standards. In the case of a wholesale buyer, he desires the whole bulk—may be several hundred bags—to meet with his approval. As he sells in small parcels, it follows that every bag or part bag should be up to the quality he desires. An individual purchasing, say, 30 lb. of seed for his own sowing, is only concerned that the parcel purchased by him is of a quality suitable for sowing.

WEED SEEDS FOUND IN COMMERCIAL SAMPLES OF FARM SEEDS.

Kind of Seed.	*Amarantus sp.*	*Apium sp.*	*Argemone mexicana.*	*Boerhaavia diffusa.*	*Brassica sp.*	*Carthamus lanatus.*	*Centaurea melitensis.*	*Cherophyllum sp.*	*Chenopodium ambrosioides.*	*Chenopodium sp.*	*Cnicus lanceolatus.*	*Datura sp.*	*Daucus sp.*	*Erigeron sp.*	*Galium aparine.*
Clover (Red)	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clover (White)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grasses—															
Canary	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Paspalum dilatatum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Prairie	2	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Rhodes	3	1	1	1	..	..	..	..	2	5	..	..	1	8	..
Couch	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Phalaris tuberosa	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Cocksfoot	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lotus major	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lucerne	..	..	3	..	..	..	3	1	..	5	1	..	..	..	..
Millets—															
Setaria italica (Panicum)	3	..	..	..	..	..	..	..	..	1	..	2	..	..	..
Japanese	1	..	..	..	..	..	..	..	..	..	..	2	..	..	..
White Panicum	2	..	..	..	1	..	..	..	..	4	1	..	..	..	..
French	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barley (Cape)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barley (Skinless)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oats	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
Rye	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Wheat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sorghum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan Grass	1	..	1	1	..	..	2	..	..	3	..	27	..	..	..

Kind of Seed.	GRASSES.																						
	Andropogon sp.	*Aristida sp.*	*Avena fatua.*	*Bromus maximus.*	*Bromus mollis.*	*Chloris barbata.*	*Chloris divaricata.*	*Chloris truncata.*	*Chloris virgata.*	*Eleusine sp.*	*Eragrostis sp.*	*Eriochloa sp.*	*Holcus lanatus.*	*Lolium temulentum.*	*Panicum decompositum.*	*Panicum sp.*	*Panicum sanguinale.*	*Paspalum compressum.*	*Setaria glauca.*	*Setaria sp.*	*Stipa sp.*	*Tragus racemosus.*	*Tricholaena Teneriffæ.*
Clover (Red)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clover (White)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grasses—																							
Canary	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paspalum dilatatum	3	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	5	30	..	..	..	..	2
Prairie	..	..	2	3	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Rhodes	28	4	..	..	..	3	46	10	2	2	15	7	..	..	2	9	14	..	..	4	12	1	26
Couch	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phalaris tuberosa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cocksfoot	..	..	..	..	5	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Rye	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lotus major	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lucerne	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	7	..	..	..	..	..	..	..
Millets—																							
Setaria italica (Panicum)	..	..	..	..	..	..	..	..	..	..	3	2	..	..	..	3	2	..	2	..	..	..	..
Japanese	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..
White Panicum	..	..	..	..	..	..	..	..	..	..	..	[illegible]	..	..	3	2	12	..	2	..	..	..	..
French	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Barley (Cape)	..	..	7	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Barley (Skinless)	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oats	..	..	24	2	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheat	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sorghum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan Grass	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	22	..	6	2	..	1	..

Kind of Seed.	*Haloragus sp.*	*Hibiscus trionum.*	*Hypochæris sp.*	*Ipomaea sp.*	*Lepidium campestre.*	*Lepidium ruderale.*	*Lithospermum arvense.*	*Malvastrum tricuspidatum.*	*Marrubium vulgare.*	*Matricaria inodora.*	*Medicago denticulata.*	*Plantago lanceolata.*	*Polygonum aviculare.*	*Polygonum convolvulus.*	*Polygonum persicaria.*	*Rumex sp.*	*Salsola Kali.*
Clover (Red)	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	2	..
Clover (White)	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	2	..
Grasses—																	
Canary	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..
Paspalum dilatatum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Prairie	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Rhodes	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	2
Couch	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phalaris tuberosa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Cocksfoot	..	..	2	..	..	..	..	..	..	..	..	2	1	..	..	5	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Lotus major	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Lucerne	..	3	..	..	..	1	..	..	3	..	..	..	7	..	..	10	..
Millets—																	
Setaria italica (Panicum)	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1	1	..
Japanese	1	6	..	..	..	..	..	..	..	..	..	..	..	1	..	3	..
White Panicum	4	12	..	..	..	..	..	2	..	..	..	..	4	..	..	1	..
French	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barley (Cape)	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Barley (Skinless)	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Oats	..	..	..	..	1	..	1	..	..	4	..	..	1	..	..	8	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sorghum	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan Grass	..	9	..	..	..	..	..	..	..	..	..	..	5	14	..	3	..

Kind of Seed.	*Salvia lanceifolia.*	*Salvia verbenaca.*	*Solanum sp.*	*Sonchus sp.*	*Spergula arvensis.*	*Stachys arvensis.*	*Sida rhombifolia.*	*Sida spinosa.*	*Sida subspicata.*	*Siegesbeckia orientalis.*	*Silene gallica.*	*Silybum Marianum.*	*Sisymbrium orientale.*	*Tribulus terrestris.*	*Trifolium minus.*	*Verbena sp.*	*Xanthium spinosum.*
Clover (Red)	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Clover (White)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grasses—																	
Canary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Paspalum dilatatum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..
Prairie	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Rhodes	..	..	..	4	..	..	4	..	1	2	..	..	..	1	..	5	..
Couch	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Phalaris tuberosa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cocksfoot	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Lotus major	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lucerne	..	2	..	..	..	1	1	..	1	..	..	..	1	6	4	..	..
Millets—																	
Setaria italica (Panicum)	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	..
Japanese	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1
White Panicum	..	..	2	..	..	1	3	1	..	..	..	..	..	..	..	..	..
French	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barley (Cape)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Barley (Skinless)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Oats	..	..	..	..	1	..	..	..	..	..	1	..	3	..	..	..	..
Rye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Wheat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sorghum	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan Grass	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..

We are now faced with the position that the wholesale buyer and seller are primarily interested in the bulk, whereas the retail buyer is vitally interested in the quality of his small parcel, which to him is of very great importance.

Unfortunately, the method employed by so many who forward samples for testing is based upon the rough and inefficient method of "grabbing" a few handfulls of seed from any bag or bags; further, even this is often delegated to a junior employee. It is obvious that a sample obtained by this method cannot be taken as representative of every small lot that may be sold from the bulk. In certain cases, a number of samples from the one bulk are necessary.

It cannot be stressed too strongly that in drawing samples, great care is needed in order to make the sample truly representative of the bulk, and this important task should devolve on some responsible person who is capable of exercising judgment and discretion.

All samples should be plainly marked with means of identification such as:—

Sample of ____________ seed
drawn from..........................bags representing a total of
.... bags.
Bags marked:—
Purchased from ____________
Date purchased ____________
Name of Sender ....
Address of Sender ____________
Date ____________

Sellers of seeds for sowing should realise when purchasing in bulk that they intend to sell in small quantities. Unless the bulk is uniform throughout, it is difficult for them to give their customers satisfaction and to escape the consquences of a breach of the Pure Seeds Acts. To illustrate what can happen with the incorrect drawing of samples, the following experience is given in detail.

A sample of *Paspalum dilatatum* seed was received from a seller and found to have a germination of 36 per cent. in six days. An examination of the bulk bag by bag, however, revealed the following germinations:—

Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
20	22	21	3	11	25	26
21	20	44	20	29	27	28
28	7	22	30	20	31	24

An examination of the above reveals the following:—

Number of samples that germinated—
Over 30 per cent. 2
20 per cent. to 30 per cent. .. 16
Under 20 per cent. 3

which means that probably only two, or at most three bags were used to obtain the sample first examined. Any person who had bought on the sample submitted to this Seed Testing Station, to use a colloquialism, would have "bought a pig in a poke."

If the person who drew the sample in the first place had been experienced, he would have observed differences in appearance, or discovered differences in origin, and would have drawn samples representing several different lots or possibly would have taken a sample from each bag.

A further illustration of the results of incorrect sampling follows:—

A merchant forwarded a sample of oats for examination, which was found to contain only a trace of Cape barley and wheat, and 1·4 per cent. inert matter, mostly damaged seed. This sample was drawn from about 12 bags. When a seed inspector drew a sample from the same stock a few days later, he obtained his from over one half of the bags—the bulk being 100 bags. The subsequent analysis of this sample revealed the presence of 1·8 per cent. wild oats, phalaris, Cape barley and wheat and 1·5 per cent. damaged seed.

Because of the unsatisfactory position with respect to samples, all certificates and reports relating to samples forwarded by merchants, and buyers are stamped with a rubber stamp reading:—

> "This certificate is not a guarantee by the Department of Agriculture and Stock as to the bulk, but an analysis of the sample received and its condition at the time of such analysis."

Certificates relating to official samples drawn by inspectors of this Branch do not bear this statement.

When taking samples, it is of the utmost importance that they be drawn in such a way as to make them truly representative of the bulks to which they belong.

To enable this to be done satisfactorily, they should be drawn alternatively from top, middle, and bottom of the bags, the proportion of bags to be sampled being not less than as follows:

1 to 19 bag lots—A portion from each bag.
20 to 39 bag lots—A portion from not less than 20 bags.
40 to 59 bag lots—A portion from not less than 28 bags.
60 to 79 bag lots—A portion from not less than 32 bags.
80 to 99 bag lots—A portion from not less than 36 bags.
100 to 199 bag lots—A portion from not less than 40 bags.
200 bags and over—A portion from not less than 20 per cent.

The usual method of drawing a sample is by means of a trier—a brass or steel tube with a sharpened end—which should be inserted to its full length into each bag and a small quantity of seed drawn off.

When sampling seed that does not run—such as Rhodes, paspalum, and prairie—a trier is useless and therefore each closed bag must be cut, an "L" shaped incision about 2½ inches by 2½ inches being required. The hand should be inserted through the hole and a portion obtained for the sample.

When a small number of bags is being sampled it will be necessary to draw a number of portions from each bag.

Not less than a trier full of seed or a handful should be drawn from any one bag.

If, when drawing samples, it is observed that great variation occurs in the bulk, two or more samples should be obtained, each representing bags whose contents are similar. In cases such as this it is advisable to place identification marks upon each bag also upon the corresponding packets in order to facilitate identification after the examination has been carried out.

After the seed has been drawn as indicated it should be emptied out on to a large piece of paper, mixed thoroughly, and then a quantity not less than the prescribed weight for such sample should be drawn.

SUDAN SEED FREE FROM JOHNSON GRASS SEEDS.

The obtaining of approved Sudan seed free from seeds of Johnson grass has been undertaken by a committee appointed for the purpose. Since its inauguration, unfortunately, a dry season has intervened; further, difficulty has been met with in obtaining areas free of other sorghums.

FOXTAIL MILLET: (GIANT SETARIA—GIANT PANICUM).

In the past, more or less confusion has arisen in connection with the sale for sowing of so-called Panicum seed—*Setaria italica.* Botanically the seed in question is not a Panicum, but belongs to the genus Setaria, a common collective name for which is "foxtail millet."

At the present time, *Setaria italica* (so-called Panicum) may be divided into three main types—viz., giant, dwarf, and an admixture of each. The so-called giant panicum offered for sale in Queensland is frequently a mixture of the giant and dwarf varieties. In order to clarify the position a departmental committee decided that the giant and dwarf varieties be called respectively giant setaria and dwarf setaria in order to ensure that these products do not lose their identity. For convenience in cataloguing, and for general reference purposes, it was decided also that the plants be described as "giant setaria (giant panicum)" and "dwarf setaria (Hungarian millet)," respectively.

AUSTRALIAN SEED CONVENTION.

Considerable progress was made towards uniformity of standards and methods at the Second Australian Seed Convention at Adelaide in October last. Actual uniformity of methods will be difficult of achievement until every station has uniform apparatus.

Problems that confront seed analysts, such as the germination of seeds that pass through the tropics, seed storage in warehouses and shops, exchange of weed seeds, necessary apparatus, pre-treatment of seeds that lack maturation and consequently show low germination, abnormal growths on germinating trays, and other matters were very fully discussed.

Tentative standard and special methods for ascertaining the germination of Rhodes, paspalum, and prairie grass seeds were agreed upon. These seeds, due to lack of maturation at time of harvest, require special treatment in order to ascertain immediately after harvesting the potential germination.

SEED CERTIFICATES.

The form of certificate now in use under the Act has been brought into line with the proposed uniform certificate. It now shows in addition to the purity (i.e., the degree of freedom from inert matter and other seeds—not purity of strain) and germination, the percentage of pure germinating seed ascertained by multiplying the percentage of pure seed by the germination percentage and dividing by 100—and also the number of weed seeds per pound or per ounce.

Following up the decisions of the Convention, when drying, soaking, and/or chemical solutions are used for testing seeds that lack maturation—such as Rhodes, paspalum, and prairie—the results are designated as "Standard" or "Special Method" respectively. The standard method is the uniform method adopted, and the special method that which involves drying or soaking, or the use of chemicals as above mentioned.

COMMERCE (TRADE DESCRIPTIONS) ACT 1905.

Seeds for Sowing.

The following table sets out particulars relative to the examination of seeds, from overseas, submitted by the Chief Quarantine Officer, Plants, to this Branch:—

GERMINATING CAPACITY OF THE PRINCIPAL SEEDS FOR SOWING EXAMINED FOR THE PURPOSES OF THE COMMERCE (TRADE DESCRIPTIONS) ACT 1905, DURING THE YEAR 1936-37.

Kind of Seed.	Imported from—	GERMINATION.					NUMBER OF SAMPLES.			Approximate Quantity of Seed Imported, 1936-37.
		Highest recorded during 1936-37.	Percentage prescribed by Queensland Regulations.	Average of samples up to Queensland standard.	Average of samples below Queensland standard.	Lowest recorded during 1936-37.	Up to Queensland germination standard.	Below Queensland germination standard.	Total number of samples examined.	
		%	%	%	%	%				
Beans—										
Broad ..	New Zealand, Holland	99	75	97	..	92	6	..	6	14 bush.
French ..	New Zealand, Norfolk Island, U.S.A., England	99	75	97	72	72	282	3	285	250 bags
Lima ..	U.S.A., New Zealand	99	75	97	..	96	9	..	9	152 lb.
Mauritius ..	Papua, Fiji	98	60	89	34	1	9	5	14	518 bags
Soya ..	Manchuria	96	75	90	..	80	7	..	7	15 bags
Beet	New Zealand, Holland, England, France, Germany, Denmark, U.S.A.	*94	*55	*72	*38	*34	102	2	104	4,243 lb.
Cabbage ..	U.S.A., Holland, England, New Zealand, France, Germany, Denmark, Japan	99	65	87	..	65	140	..	140	787 lb.
Carrot	New Zealand, U.S.A., Holland, England, France, Denmark, Japan	96	55	74	51	51	116	1	117	1,908 lb.
Cauliflower ..	France, Holland, New Zealand, Germany, England	97	60	88	44	41	42	2	44	100 lb.
Celery	Germany, Holland, New Zealand, England, France ..	92	†50	77	26	Nil	6	3	9	18 lb.
Cucumber ..	U.S.A., New Zealand, Holland, Germany, England, France	99	65	86	58	51	63	3	66	667 lb.
Cowpeas ..	Papua	82	65	74	..	69	4	..	4	34 bags
Clover—										
Red ..	New Zealand	97	†75	88	..	80	22	..	22	24 bags
White ..	New Zealand, England	96	†70	85	..	71	8	..	8	7 bags
Cress	Holland	98	50	89	..	80	2	..	2	4 lb.
Endive	France	91	†55	91	..	91	1	..	1	4 lb.
Grasses—										
Agrostis sp.	U.S.A., New Zealand	80	†60	80	38	38	1	1	2	5 bags
Cocksfoot ..	New Zealand	56	50	56	..	56	5	..	5	5 bags
Poa sp. ..	U.S.A.	41	†40	41	..	41	1	..	1	2 bags
Prairie ..	New Zealand	95	50	86	..	75	30	..	30	30 bags
Rye ..	New Zealand	98	60	90	..	80	31	..	31	162 bags
Hemp	New Zealand	53	†65	53	..	53	1	..	1	56 lb.
Kohl-rabi ..	Holland, France, New Zealand, Denmark	98	†60	88	27	27	15	1	16	35 lb.
Leek	Holland, England, Germany, France, New Zealand	93	50	84	..	70	11	..	11	26 lb.
Lettuce ..	New Zealand, Holland, U.S.A., England, Germany, France	99	65	87	50	39	99	3	102	316 lb.
Lupins	New Zealand	98	†60	96	..	94	5	..	5	5 bags
Mangel	England, Holland, Scotland, New Zealand, Germany, France	*91	*55	*71	*43	*28	55	8	63	5,639 lb.
Marrow ..	New Zealand, Holland, England, France, Germany .	98	65	88	55	54	36	3	39	575 lb.
Marjoram ..	France	80	†40	80	..	80	1	..	1	2 lb.
Melon—										
Rock ..	U.S.A.	96	65	90	..	79	11	..	11	53 lb.
Water ..	U.S.A., New Zealand	99	60	81	..	60	43	..	43	442 lb.
Mustard ..	Holland, England, New Zealand	96	†60	91	..	82	5	..	5	76 lb.
Onion	New Zealand, U.S.A., France	96	60	83	20	20	18	1	19	61 lb.
Parsnip ..	New Zealand, U.S.A., England	88	25	63	..	38	16	..	16	205 lb.
Parsley ..	Holland, New Zealand, England, France	88	†40	72	..	53	13	..	13	55 lb.
Peas (Garden) ..	New Zealand	99	75	94	56	56	376	1	377	366 bags
Pumpkin ..	New Zealand, France	92	65	75	..	68	4	..	4	17 lb.
Radish	Holland, New Zealand, England, Denmark, Germany, France, Japan	98	65	88	56	56	51	1	52	362 lb.
Rape	Scotland, England, New Zealand	98	70	90	..	77	32	..	32	29 cwt.
Rhubarb ..	England, Holland, New Zealand, France	94	†50	79	13	10	5	2	7	13 lb.
Rice	New Guinea	75	80	75	..	75	1	..	1	3 bags
Sage	Holland, France	95	†40	86	..	77	2	..	2	7 lb.
Spinach ..	England, Holland	60	†45	51	..	45	4	..	4	9 lb.
Sweet Corn ..	U.S.A.	98	75	93	..	80	5	..	5	29 lb.
Swede	New Zealand, Holland, Scotland, France, England, Japan	99	65	84	..	69	30	..	30	918 lb.
Thyme	Holland	80	†35	80	..	80	1	..	1	1 lb.
Tomato ..	U.S.A, New Zealand, France, Japan	97	65	85	25	25	70	1	71	316 lb.
Trefoil	England	94	65	94	..	94	1	..	1	56 lb.
Turnip	Holland, England, New Zealand, France, Denmark	99	65	93	..	70	37	..	37	464 lb.
	Total Number of Samples						1,836	40	1,876	

Parcels containing seeds received from Parcel Post for examination, 256.

* Clusters. † Proposed standards of germination.

On reference to the table on the preceding page, it will be seen that the imported seeds generally are of "high germination" quality. Nevertheless, the necessity of a check being maintained on all seeds entering Australia is emphasised by the fact that it was found necessary to stop the entry of the following seeds for the reasons set out:—

Lots.	Quantity.	Kind of Seeds.	Reasons for Action.	Action Taken.	Country Received From.
1	66 bags	Beans, Mauritius	Faulty germination	Detained	New Guinea
1	2 bags	Beet	Faulty germination	Detained	New Zealand
2	2 lb.	Cauliflower	Faulty germination	Returned to country of origin	New Zealand
1	14 lb.	Cucumber	Faulty germination	Destroyed	England
1	3 lb.	Cucumber	Faulty germination	Detained	Holland
1	1 lb.	Kohl-rabi	Faulty germination	Destroyed	France
1	3 lb.	Lettuce	Faulty germination	Destroyed	France
1	1 lb.	Lettuce	Faulty germination	Detained	Holland
1	14 lb.	Mangel	Faulty germination	Destroyed	Denmark
1	5 bags	Mangel	Faulty germination	Detained	England
1	1 lb.	Onion	Faulty germination	Returned to country of origin	New Zealand
1	1 bag	Peas	Faulty germination	Destroyed	New Zealand
1	3 lb.	Radish	Faulty germination	Destroyed	France
1	10 lb.	Sweet Corn	Faulty germination	Destroyed	New Zealand
2	20 lb.	Swede	Faulty germination	Destroyed	Japan
1	4 lb.	Tomato	Faulty germination	Destroyed	Japan

FERTILISERS ACT, 1936-1937.

The following table sets out particulars relative to the operation of the Act for the year ending June, 1937:—

Licenses-	
Issued	197
Refused	—
Registrations—	
Effected—General	216
Effected—Special Mixtures	150
Samples received from—	
Dealers	46
Buyers	4
Inspectors	166

The year's operations as enumerated above, when compared with the table published last year, show an increase of 35 licenses issued; this is due to the tightening up of the application of the Act.

The number of fertilizers registered shows an increase of 50 general and an increase of 126 special mixtures.

The number of samples received from dealers has decreased by 22; last year's figures included a large proportion of lime samples which were forwarded for purposes of obtaining information relative to the quality of their materials before printing labels.

For the year ended June, 1935, only 31 samples were taken; for 1936, 79 were obtained; and this year 166 official sealed samples were taken from the various dealers, which well illustrates the activities of the inspectors.

A general survey of the analyses carried out on these samples indicates that the supply of fertilizer now upon the market can be bought with confidence.

INSPECTION OF LIME DEPOSITS.

In the course of the year a comprehensive inspection of the lime works in North Queensland was carried out, with a view to bringing all materials concerned completely in line with the requirements of the Fertilisers Act.

This inspection necessitated the visiting of the following places:—Mungana, Chillagoe, Ootann Siding, Jaffa Siding, Mingela, Reid River, Calcium, Manton, Inkerman. In addition, of course, the towns through which the products are distributed by agents were also visited—including Cairns, Townsville, and Home Hill.

The only restraint placed on lime dealers is the classifying and correct labelling of their products. All limes are kept within their respective groups and may be compared within such groups or with all limes generally by any person reading the label; competition—which is keen—keeps the prices at a reasonably low mark.

One point of interest with respect to lime works is demonstrated in the following:—Burnt lime is probably the most popular form used in North Queensland for application to the soil. This material is prepared at the site of the deposits—such as Calcium, Manton, and Ootann Siding, which are dry areas. Burnt lime is very unstable, and alters composition quickly on exposure to damp air. Damp air is fairly rare, however, at the places of manufacture, and not until the burnt lime is received in the wet coastal area for application to the soil is it liable to be subjected to adverse keeping conditions.

Of course, under the best of conditions burnt lime should be freshly prepared—as burnt lime should be lump lime. When the lump lime starts to powder the farmer is paying for the weight of carbon dioxide and water absorbed from the air. Once he has bought on the weight of lump lime, however, it does not matter how much the weight increases—in fact, he usually allows it to slake by leaving it in heaps on his soil to powder before being spread.

The requirements of the Act with respect to declaring the net weight on the label ensure that the weight is actually put in the bag when packed. The old method of weighing on trucks in the coastal towns is eliminated.

Magnesian limes.—A class of materials that has recently gained prominence on the Queensland market consists of magnesian or dolomitic limes. These vary in magnesia (MgO) content from 5 to 21 per cent. They are nearly all earthy limes, being soft chalky materials capable of being excavated with pick and shovel. It should be noted that magnesia has a capacity to neutralise acidity, comparable with lime; consequently the presence of magnesia does not reduce the neutralising value of a lime, like silica or other impurities.

The operations of "*The Fertilisers Act of* 1935," so far as it applies to lime for agricultural purposes, are now in full working order. Registration of the various materials reveals the following kinds are being sold with the range of analyses set out.

LIMES SOLD IN QUEENSLAND.

——	Calcium Oxide as—			Magnesium Oxide.	Neutralising Value.
	Calcium Oxide.	Calcium Hydroxide.	Calcium Carbonate.		
	%	%	%	%	
Burnt lime	90	..	..	..	160
Burnt lime, pulverised	85	..	..	..	150
Slaked lime	..	50/60	10/3	..	110/107
Processed lime	..	..	47	..	88
Pulverised limestone, marble, &c.	..	..	55/50	..	99/90
Earthy lime	..	..	51/43	..	90/85
Earthy magnesian lime	..	..	45/21	5/21	85/70

As a result of the amending Act buyers of lime in its many forms can now purchase with the assurance that they will receive an article properly labelled as to its composition.

NEUTRALISING VALUE.

It is apparent that the term "neutralising value" that now appears on all lime labels and the comparative values of different types of lime for agricultural purposes is not fully understood. Generally speaking, provided that the rate of absorption by the soil is disregarded, the values of limes can be compared from their neutralising values.

For instance, 1 ton of a good burnt lime with a neutralising value of 160 would be equivalent to 2 tons of an earthy lime with a neutralising value of 80. It should be understood that the burnt lime must be taken on the weight of the fresh lump material—not on the powdered slaked lime to which it quickly changes on exposure.

SHORTAGE OF DRIED BLOOD.

One point of note with respect to fertilizer supplies this year is the shortage of dried blood. The demand has been much greater than could be met from local sources, and difficulty has been experienced in obtaining material. Besides the use of dried blood "straight," and also as a stock food, it must be realised that quite a considerable amount of this material is used in fertilizer mixtures, consequently a shortage of supply is liable to cause considerable inconvenience to fertilizer dealers who compound mixtures.

FERTILIZERS SOLD IN QUEENSLAND.

A review of the fertilizers registered under the Act for the current year reveals the high standard of materials sold in this State.

The following sets out the kinds of materials sold and the respective percentages of nitrogen (N) phosphoric acid (P_2O_5) and potash (K_2O) present in such materials:—

Fertilizer.	Minimum—		
	Nitrogen %	Phosphoric Acid. %	Potash. %
Nitrate of soda	15·6	..	..
Sulphate of ammonia	20·6-21	..	..
Dried blood	11-13	..	..
Superphosphate	..	20·5-21 (Water sol.)	..
Bone dust	3-3·5	22-23·5	..
Meatworks fertilizer	3·6	14-23	..
Basic phosphate	..	17 (cit. sol.)	..
Nauru phosphate	..	37	..
Sulphate of potash	..	..	48-50
Muriate of potash	..	..	50-52

A large proportion of the fertilizers distributed in Queensland is sold in the form of mechanical mixtures, i.e., mixtures containing two or more of the abovementioned ingredients (with the exception of basic phosphate and Nauru phosphate) in varying quantities.

Last year the lowest grade mechanically mixed fertilizer offered for sale in Queensland had a total of 14 per cent. nitrogen, phosphoric acid, and potash. This year the lowest contains 20 per cent. nitrogen, phosphoric acid, and potash.

FILLER REGULATION.

In order to raise the standard of fertilizers being offered for sale, it has been found necessary to provide by regulation that when any "filler" is used in the compounding of any mixed fertilizer, the percentage of such "filler" and the name thereof shall be declared upon the label; thus the use of earth, sand, ashes, or other "fillers" in fertilizers is disclosed to the buyer. When this regulation is fully enforced, all fertilizers that do not show "filler" on the label can be accepted as being 100 per cent. recognised fertilizing ingredients, and other fertilizers as being 100 per cent. recognised fertilizing ingredients less the percentage of filler declared.

LABELS.

Instances have occurred where fertilizer has been offered for sale without labels being attached to the bags. Drastic action had to be taken by this Branch. No excuse can be accepted for failure to attach labels setting out the name of the fertilizer, the guaranteed analysis, the net weight, and the name of the manufacturer or dealer—all matters of great importance to the farmer; in fact, the absence of the label reduces the value to the farmer practically to nil, especially with mixed fertilizers.

Seizure.—In cases such as those referred to, it has been necessary to exercise the power given under Section 17 (1) (*e*) of the Fertilisers Act and seize fertilizer that does not comply with the provisions of the Act, or that is being offered for sale by any person who has not complied with the provisions of the Act.

The following table sets out the action taken by inspectors under the provisions of the Act:—

Quantity.	Kind of Fertilizer.	Reasons for Action.	Action Taken.
5 packages ..	Bone dust	No license	Seized and sealed
16 bags	Dried blood	Not labelled or registered	Seized and sealed
120 bags	Lime	Not labelled or registered	Seized and sealed
900 bags	Meatworks'	Not labelled or registered	Sale suspended

EXPERIMENTS.

In the course of the year a number of experiments in association with the Agricultural Chemist have been carried out along organised lines to endeavour to solve some of the problems associated with the manufacture and maintenance of standard of fertilizers. The chief of these problems may be set out as follows:—

(*a*) Under normal commercial conditions what error would be involved in the mixing of 1 ton of typical fertilizer—the ingredients being weighed and mixed under departmental supervision?

(*b*) Is it possible that under certain conditions—length of storage, temperature, &c.—some of the organic nitrogen present in a mixed fertilizer may alter to ammoniacal compounds and thus on analysis be estimated as "nitrogen as ammonium sulphate"?

(*c*) In mixed fertilizers what factors influence the reversion of water soluble phosphoric acid to water insoluble phosphoric acid? Knowing that reversion is fairly common in mixed fertilizers, what would be a reasonable percentage to expect in fertilizers correctly mixed and stored under suitable conditions for an average length of time?

It is expected that, provided pressure of work is not too great, quite a considerable amount of time will be put into this type of work during the next year.

VETERINARY MEDICINES ACT, 1936-1937.

The following table sets out particulars relative to the operation of the Act for the year ending June, 1937:—

Licenses—	
Issued	392
Refused	—
Registrations—	
Effected	570
Pending	75
Samples received from—	
Dealers	157
Buyers	—
Board Meetings	8

The year's operations as enumerated above when compared with the table published last year, show a decrease of 1 license issued and an increase of 30 registrations effected.

A number of labels submitted required considerable alteration to the "claims" made before they were accepted for registration.

The standard of the veterinary medicines on the Queensland market, after the Act has been in operation for three years, can now be considered as fairly high.

CONFIDENTIAL NATURE OF DECLARATIONS.

Apparently some people fail to realise the confidential nature of the statutory declarations containing the formulæ of the various veterinary medicines submitted for registration. Precautions are taken to ensure that the formulæ submitted are treated as strictly confidential and no one except the person whose signature appears on the statutory declaration concerned can have access to them.

In actual practice, the statutory declarations when received are submitted in bulk to the Veterinary Medicines Board. Otherwise, the formulæ are accessible only to authorised officers of this Branch.

LABELLING.

The distinct improvement in the labelling of veterinary medicines obtained last year is being maintained.

REGISTERED VETERINARY MEDICINES.

A list of veterinary medicines submitted to the Board and subsequently registered has been prepared and copies are obtainable on application.

Unregistered Veterinary Medicines.

Action had to be taken to prevent the sale of a quantity of unregistered preparations. Most of these preparations were returned to the suppliers, but in some cases, where they consisted of old stock, they were voluntarily destroyed by the dealers.

Amending Regulations.

It has been found necessary to amend the Regulations by the addition of caffeine, cocaine, croton oil, euphorbium gum, heroin, laudanum, morphine, and nicotine, to the second schedule. This means that veterinary medicines containing any of the substances mentioned must now state the name and percentage or quantity on the label.

Some of the veterinary medicines submitted bear upon the labels claims relative to their use for human beings; these preparations are mostly for external application—embrocations, ointments, &c. Registration of these under the Veterinary Medicines Act does not in any way relate to their efficacy for human use.

Materials will not be accepted for registration under the Veterinary Medicines Act if they contain ingredients which come under Regulation 21 of the Poisons Regulations, which provides that they only be sold on a written prescription of a veterinary surgeon or medical practitioner.

Pest Destroyers Act, 1936-1937.

The following table sets out particulars relative to the operations of the Act for the year:—

Registrations—	
Effected—General	388
Effected—Special Mixtures	11
Pending	30
Samples received from—	
Dealers	435
Buyers	7
Inspectors	23

The year's operations as enumerated above, when compared with the table published last year, show an increase of 119 registrations effected.

Of the 7 samples received from buyers, 5 were found to comply with the standards prescribed; thus in the case of only two samples—both from the one source—was the complaint justified.

Supervision of the quality of arsenate of lead, sheep dips, nicotine sulphate, bordeaux, burgundy, copper sprays, sulphur, and lime sulphur has received special consideration.

Labelling.

The general labelling of the pest destroyers with the particulars considered to be necessary for the purchasers' information, can now be considered to have reached a satisfactory state.

Dusting Mixtures.

One item of note with respect to labelling is the manner in which dusting mixtures should be treated.

The active constituents of these materials should be set out in such a way as to show the percentages of the metals, metallic oxides, or similar portions of the ingredients, followed by the names of the ingredients in which such metals, metallic oxides, &c., occur.

Each set of particulars should be set out on a separate line and all active constituents should be readily capable of chemical determination; the accurate determination of the percentage of arsenate of lead in a mixture would tax the ingenuity of a chemist to the utmost, whereas the exact percentage of arsenic pentoxide (As_2O_5) is comparatively easily determined.

If it is still thought desirable to state the percentages of the ingredients on the label, i.e., to state the formulæ from which the material is compounded, this must not be done by placing such percentages after the names of the ingredients shown under the heading of "Active Constituents," but should be set out on a separate part of the label.

For instance, the following is not correctly set out:—

Active Constituents—

10.0% arsenic pentoxide (As_2O_5) as arsenate of lead 33%

The following, however, does comply with all requirements:—

Active Constituents—

5.0% copper (Cu) as copper sulphate.
10.0% arsenic pentoxide (As_2O_5) as arsenate of lead.
9.8% sulphur as sublimed sulphur.
2.0% nicotine as nicotine sulphate.
0.3% nicotine as tobacco powder.

and elsewhere on the label (if desired):—

This dusting mixture is composed of—

Per cent.	
15.0	dehydrated copper sulphate.
33.0	arsenate of lead.
10.0	sublimed sulphur.
5.0	nicotine sulphate.
30.0	tobacco powder.
7.0	inert material.
100.0	

The particulars that must be shown are comparable to those set out on a fertilizer label, (e.g.)—

5.1% nitrogen as ammonium sulphate.
1.0% nitrogen as blood, bone, and offal.
5.1% phosphoric acid (water soluble) as superphosphate.
7.0% phosphoric acid as bone.
10.0% potash as potassium chloride.

The work of this Branch is greatly facilitated by the submission of printer's proofs of labels for checking before printing is finalised.

ARSENATE OF LEAD.

This pest destroyer is offered for sale in Queensland in the following forms:—(*a*) powder; (*b*) powder plus spreader or sticker; (*c*) paste; (*d*) colloidal.

Form (*a*) is the ordinary commercial arsenate of lead offered for sale. Spreader or sticker is sometimes included in the proprietary article to either increase its suspension in water or increase its adhesion to surfaces on which it is sprayed. Naturally the addition of only 1 per cent. of material to the commercial arsenate of lead will reduce the arsenic pentoxide (As_2O_5) content, so that as a whole class (*b*) cannot be expected to guarantee or analyse as high an arsenic pentoxide (As_2O_5) content as class (*a*).

Form (*c*) is commercial arsenate of lead which has not been dried out after manufacture. It may be described as powder plus a maximum of 50 per cent. of water. The main advantage of this form is the greater ease in obtaining a suspension on addition of water. The arsenic pentoxide (As_2O_5) figure is declared on a dry basis and consequently is shown as being approximately the same as for powders. As the maximum quantity of water allowed by regulation is 50 per cent., the true percentage of arsenic pentoxide (As_2O_5) would be about half of that declared; it should never be less than half.

Form (*d*) is a very fine form of arsenate of lead as its name implies. It is marketed in paste form, this being necessary to preserve the fine state of division. The percentage of water is again 50 and the remarks with respect to arsenic pentoxide (As_2O_5) content as above under (*c*) apply here also.

The following table sets out the arsenates of lead marketed in Queensland and the "guarantees" and "founds" with respect to same:—

ARSENATE OF LEAD.

Name of Pest Destroyer.		Guarantee on Label or Found on Analysis.		Queensland Wholesale Dealer.
		Arsenic Pentoxide (As_2O_5) Min.	Water Sol. Arsenic Pentoxide (As_2O_5) Max.	
		%	%	
Prescribed Standard		30·0	0·5	
Powder—				
A.C.F. Arsenate of Lead Powder ..	Guarantee	*31·0*	*0·5*	A.C.F. & Shirleys Fertilizers Ltd., Brisbane
	Found ..	31·7	0·3	
Berger's "Mercury" brand Arsenate of Lead Powder	Guarantee	*30·0*	*0·5*	Neptune Oil Co. Ltd., Brisbane
	Found ..	32·6	0·3	
Vallo Arsenate of Lead Powder ..	Guarantee	*32·0*	*0·5*	Leggo & Co. Pty. Ltd., A. V., Brisbane
	Found ..	32·5	0·4	
Powder plus Spreader—				
Bickford's "Aero" Brand Arsenate of Lead Powder	Guarantee	*31·5*	*0·25*	Bickford & Sons Ltd., A. M., Brisbane
	Found ..	31.2	0·3	
C.O.D. Arsenate of Lead	Guarantee	*30·5*	*0·5*	Committee of Direction of Fruit Marketing, Brisbane
	Found ..	30·5	0.4	
Cooper's Arsinette	Guarantee	*30·0*	*0·5*	Queensland Fruitgrowers' Society Ltd., Brisbane
	Found ..	31·0	0·3	
Lead Spread	Guarantee	*30·0*	*0·5*	Neptune Oil Co. Ltd., Brisbane
	Found ..	30·0	0·4	
Pinnacle Brand Arsenate of Lead	Guarantee	*30·5*	*0·5*	Clou-Dust Spray Manufacturers, Brisbane
	Found ..	30·5	0·4	
Paste (Dry Basis)—				
Berger's "Mercury" Brand Arsenate of Lead (Paste)	Guarantee	*30·0*	*1·0*	Neptune Oil Co. Ltd., Brisbane
	Found ..	31·6	0·4	
Vallo Arsenate of Lead (Paste) ..	Guarantee	*32·0*	*0·5*	Leggo & Co. Pty. Ltd., A. V., Brisbane
	Found ..	32·7	0·4	
Colloidal (Dry Basis)—				
Berger's "Mercury" Brand Colloidal Arsenate of Lead	Guarantee	*30·0*	*0·5*	Neptune Oil Co. Ltd., Brisbane
	Found ..	30·5	0·3	

SHEEP DIPS—ARSENICAL.

Following the approval of Regulation 32 (A) under the Poisons Regulations requiring all arsenical sheep dips which are for use other than during the first four months after shearing, to contain at least 3 per cent. of emulsified or saponified (in soap) oil, the Pest Destroyer Regulations were amended in order to fall into line. Roneo instruction sheets were also printed giving the full information required to be set out on a label attached to sheep dipping, spraying, jetting, or swabbing preparations complying with requirements. Labels relating to such dips should include the following instructions:—

POISON (in red on white, largest type and on first line of label, and to be the only word on such line.)
........................Sheep Dip.
..................Imperial Gallons.
Active Constituents: Arsenic As_2O_3..............%
*Tar Acids..............%
1. *Dipping and Spraying Sheep*—
Maximum strength at any time—
1 gallon concentrate to .... gallons water .. .. .. = 0.2% As_2O_3
2. *Jetting and Swabbing Sheep*—
(*a*) Within six weeks of shearing—
1 gallon concentrate to .... gallons water .. .. .. = 0.2% As_2O_3
(*b*) Sheep carrying more than nine months' wool—
(*x*) Between eight and six weeks prior to shearing—
1 gallon concentrate to .... gallons water .. .. .. = 0.5% As_2O_3
(*y*) If sheep have not been adequately crutched when carrying between six and eight months' wool—
1 gallon concentrate to .... gallons water .. .. .. = 0.5% As_2O_3
(*z*) At any time other than in (*x*) and (*y*)—
1 gallon concentrate to .... gallons water .. .. .. = 0.7% As_2O_3
(*c*) At any time other than (*a*) or (*b*)—that is not within six weeks of shearing or not carrying nine months' wool—
1 gallon concentrate to .... gallons water .. .. .. = 0.8% As_2O_3
Name and address of Queensland Primary Dealer.
*To be declared when present.

NICOTINE SULPHATE.

This class of material has uses which bring it under both the Pest Destroyers and Veterinary Medicines Acts—horticultural and veterinary uses. A survey of nicotine sulphates on the Queensland market was carried out chiefly with a view to ascertaining the freedom or otherwise from coal tar bases—pyridine, &c.—"practical freedom" from which, is prescribed under the Pest Destroyers Regulations, and freedom from which is required for veterinary purposes.

BORDEAUX MIXTURE, BURGUNDY MIXTURES, AND COPPER SPRAYS.

Considerable attention has been given to the classification of pest destroyers coming under the above heading. As no burgundy mixtures are on the Queensland market, the classification has resolved itself down to making sure that only preparations containing copper sulphate and an equivalent quantity of lime are called bordeaux mixtures, and the remainder are called copper sprays. Copper sprays may be the same preparations as copper dusts—only they are advocated to be used for wet spraying instead of dry dusting.

SULPHURS.

These pest destroyers may be divided into five classes—ground, sublimed, precipitated, colloidal, and a fifth class embracing various "prepared sulphurs" which are sulphur mixed or combined with other materials, for a specific purpose.

The first-named four classes almost require no comment—except perhaps to note that the use of the word "flour" in connection with ground sulphur—a practice condemned by this Branch—led to the actual purchase of a large quantity of ground sulphur under the impression that it was sublimed sulphur—sometimes known as sublimed "flowers" of sulphur.

With the "prepared sulphurs" it has been necessary to insist that the actual percentage of sulphur present be declared on the label. For instance, if a preparation is called "special sulphur" and contains 80 per cent. ground sulphur and 10 per cent. sulphide sulphur, the declaration on the label of "100 per cent. special sulphur" is not acceptable; the label must show "80 per cent. sulphur (S) as ground sulphur and 10 per cent. sulphur (S) as sulphide sulphur" as the active constituents.

The following table sets out the ground, sublimed, precipitated, colloidal, and prepared sulphurs registered, also the findings on analyses. The colloidal sulphurs (as in the case of arsenate of lead) are packed with water to preserve the fine form of division.

SULPHUR.

Name of Pest Destroyer.		Guarantee on Label or Found on Analysis.	Queensland Wholesale Dealer.
		Sulphur. %	
Ground Sulphur—			
Australian Ground Sulphur	Guarantee	*99·0*	Neptune Oil Co., Ltd., Brisbane
	Found ..	99·7	
Clou-dust Finest Ground Sulphur	Guarantee	*99·5*	Clou-dust Spray Manufacturers, Brisbane
	Found ..	99·5	
Powdered Sulphur	Guarantee	*98·0*	A.C.F. and Shirleys Fertilizers Ltd., Brisbane
	Found ..	99·4	
Powdered Sulphur	Guarantee	*99·5*	Horsburgh & Co., Ltd., G., Maryborough
	Found ..	99·8	
Sicilian Ground Sulphur	Guarantee	*99·0*	Neptune Oil Co., Ltd., Brisbane
	Found ..	99·1	
Vallo Powdered Sulphur	Guarantee	*99·0*	Leggo & Co., Pty., Ltd., A. V., Brisbane
	Found ..	99·7	
Sublimed Sulphur—			
Sicilian Sublimed Flowers of Sulphur	Guarantee	*99·0*	Neptune Oil Co. Ltd., Brisbane
	Found ..	98·7	
Star Brand Pure Sublimed Flowers of Sulphur	Guarantee	*100·0*	Buzacotts (Qld.) Ltd., Brisbane
	Found ..	99·4	
Sublimed Flowers of Sulphur	Guarantee	*99·5*	A.C.F. and Shirleys Fertilizers Ltd., Brisbane
	Found ..	99·6	
Sulphur Sublimed B.P.—			
Sublimed Sulphur	Guarantee	*100·0*	Taylors Elliotts and Australian Drug Ltd., Brisbane
	Found ..	99·3	
Precipitated Sulphur—			
Neptune Precipitated Sulphur	Guarantee	*99·0*	Neptune Oil Co. Ltd., Brisbane
	Found ..	99·3	
Colloidal Sulphur—			
Cooper's Colloidal Sulphur	Guarantee	*50·0*	Queensland Fruitgrowers Society Ltd., Brisbane
	Found ..	50·0	
Cosan Colloidal Liquid Sulphur	Guarantee	*49·0*	Buzacotts (Qld.) Ltd., Brisbane
	Found ..	52·0	
Cosan Colloidal Sulphur	Guarantee	*50·0*	Committee of Direction of Fruit Marketing, Brisbane
	Found ..	50·0	
Prepared Sulphur—			
Atomic Sulphur	Guarantee	*90·0*	Neptune Oil Co. Ltd., Brisbane
	Found ..	90·7	

In the case of the sublimed sulphur, it will be observed that the findings are slightly below guarantee. This is due to the fact that the percentage guaranteed is intended by the dealers to mean the percentage of "commercial sublimed sulphur." This method of declaration is not quite correct as the percentage guaranteed should represent the actual amount of the element sulphur (S) which is recoverable on analysis.

The deficiencies, however, as above stated, are very slight and are well within the margin of error allowable.

TAR ACIDS.

A survey of the analyses of commercial tar acid samples used in the manufacture of dip in Queensland revealed the fact that these samples consisted almost entirely of low boiling point tar acids (true phenol and cresylic acids) and varied in purity from 80 per cent. to almost 100 per cent.

The percentage of high boiling point tar acids such as xylenols, &c. (phenoloids) was practically nil. As the properties of low boiling point and high boiling point tar acids differ considerably, and certain standard methods of chemical analysis for estimation of the low boiling point acids cannot be used with the high boiling point acids, it would be necessary should high boiling point tar acids be used in dips, &c., in Queensland in the future, to have their presence stated on the label.

UNREGISTERED MATERIALS.

Quantities of unregistered blow fly oil, spraying oil, and manurial insecticide, also so called phenolic "sheep dip," had to be withdrawn from sale during the year. These preparations were mostly returned to the original seller or manufacturer.

The Regulations under the Act provide that sheep dip shall contain not less than 16 per cent. phenolic compounds; those in question were branded as containing under 3 per cent.

EXPERIMENTS.

Lime Sulphur.

It is known that calcium polysulphides are comparatively unstable—in fact the efficiency of lime sulphur apparently depends to a certain extent on this instability—and break down to calcium monosulphide.

Experiments are being conducted by this Branch to ascertain the keeping qualities of lime sulphur concentrates.

Lime sulphur is handled by the manufacturers in 45-gallon drums, and four of these drums containing freshly made material were procured and stored under the following conditions:—

A—45-gallon drum containing 45 gallons—stored in open exposed to the sun.

B—45-gallon drum containing 15 gallons—stored in open exposed to the sun.

C—45-gallon drum containing 45 gallons—stored in shed, *i.e.*, in the shade.

D—45-gallon drum containing 15 gallons—stored in shed, *i.e.*, in the shade.

Except when samples were being drawn, the drums were kept completely airtight.

The results of the analyses with respect to the polysulphide sulphur content are as follows:—

Drum.	Storage Conditions.	POLYSULPHIDE CONTENT.			
		—	2 Months.	4 Months.	10 Months.
		%	%	%	%
A. Full	In open exposed to sun	14·2	13·1	13·1	12·8
B. One-third full ..	In open exposed to sun	14·7	13·1	13·0	12·0
C. Full	In a shed—i.e., in the shade	14·2	13·5	13·3	12·8
D. One-third full ..	In a shed—i.e., in the shade	14·2	13·0	13·0	12·0

The total percentage depreciation in the time stated is as follows:—

	Per cent.		Per cent.
A. ..	9.9	C. ..	9.9
B. ..	18.3	D. ..	15.7

From these figures it can be deduced that the chief factor with respect to the maintenance of the quality of lime sulphur solutions is the exclusion of air—by keeping the containers full. Heat—such as direct sunlight—has an adverse effect on the storage, only when the air is not excluded.

It is admitted that the "skin" that forms on the surface of lime sulphur was broken each time a sample was taken and that this "skin" may have a protective effect on the lime sulphur, but in commerce, it is probable that the handling would be more frequent than in this experiment, and consequently it is considered that this phase can be disregarded.

Experiments carried out on a smaller scale failed to give any conclusive results, due, no doubt, to the small quantities of the material involved.

This experiment was conducted over a period of ten months, and although the lime sulphur used was not of particularly high standard, it is considered that the results already obtained give sufficient information to warrant further experiments being carried out along the same lines.

STOCK FOODS ACTS, 1936-1937.

The following table sets out particulars relative to the operations of the Acts for the year ending June, 1937:—

Registrations—	
Effected	234
Pending	24
Samples received from—	
Dealers	285
Buyers	8
Inspectors	68
Government Departments	3

The year's operations as enumerated above when compared with the table published last year, show an increase of 37 registrations effected, and 52 samples taken by inspectors.

A check up by sampling and analysis upon the guarantees of some of the various mixed concentrated stock foods has been entered upon this year, so far with satisfactory results.

BRAN AND POLLARD.

As a result of allegations made by a local producers' association that the flour mills in Brisbane were equipped with machinery for the express purpose of grinding all the cleanings removed from the wheat—such as straw, glumes, and chaff—and that the resulting meal was being run into the bran and pollard, a surprise and careful comprehensive inspection was made of each mill operating in Brisbane with the result that such statements were found to be groundless.

In order to better explain the position, the following may be of interest:—

Wheat, when received at a mill for the manufacture of flour, is first passed through a separator which takes out all the rubbish—glumes, straw, dust, &c. The disposal of this material is achieved by having it carted away by various farmers for feeding or bedding purposes.

The wheat, after being separated, is stored until required to be prepared for gristing. This involves, among other processes, separation of broken grain—oats, barley, and pinched wheat (tail); also a certain portion of the bran coat removed by friction.

All modern mills are equipped with machinery for the treatment of the broken grains and small wheat grains; the resulting meal, being of good feed value, is run into the pollard.

It should be noted that in the case of bran a maximum of 1 per cent., and in the case of pollard 0·5 per cent.—both by weight—of ingredients other than wheat are allowed.

The cost of removing this small quantity of what, in most cases, is composed of barley and oats, would only raise the price of bran and pollard.

The results of this investigation indicate that buyers of these mill offals are receiving bran and pollard of good commercial quality.

Naturally, places of manufacture outside this State cannot be subject to inspection under the Queensland Stock Foods Acts, It is, however, provided that all stock foods that come under section 3 of the Act—which includes bran and pollard—when offered for sale within this State, shall be labelled in the same manner as bran and pollard manufactured by Queensland mills.

RICE BY-PRODUCTS.

Considerable misunderstanding occurs as to the correct designation of the various by-products of rice.

Rice grain is grown primarily for human use, but before it is used for this purpose it is subjected to various methods of preparation, which leave as by-products certain materials—polish, meal, bran, pollard, and hulls. These materials as produced from the paddy rice, are described individually as follows:—

Rice Hulls.—These are the tough, flinty husks removed from the grain by threshing, and used for packing. They have practically no feeding value; they contain a large proportion of silica, and may—due to the irritation they can set up—cause digestive troubles.

Rice Meal.—This should consist of the whole kernel ground after the removal of the hulls, and should include the starchy endosperm, germ, and bran coats.

Rice Bran.—This is the outer coat of the grain after the hulls have been removed; this portion usually contains most of the germ which is very liable to go rancid on storage.

Rice Pollard (Meal).—This designation is used to indicate a fraction composed of the polish, portion of the germ, part of the bran, and some starch; it really consists of the best part of the rice grain. It is sometimes referred to as "Rice Meal"; "meal," however, implies that the material is the "whole grain, ground." This substance contains only the layer between the starchy centre and bran, including a little of each of these.

Rice Polish.—This is that portion removed—after the removal of the bran—in order to produce the fine, smooth, even grain for human consumption that pleases the eye; it is liable to go rancid upon long storage.

The removal of these fractions leaves finally the starchy grain to be used for human consumption. All that is removed—consisting of the germ, protein layers, mineral matter, vitamins, and some starch—is fed to the animals; "truly, man is wise to feed his animals so well."

The abovementioned materials would analyse on the following basis:—

RICE.

—	Crude Protein.	Crude Fat.	Crude Fibre.	Ash.
	%	%	%	%
Rice hulls ..	2·0	0·5	34/40	20·0
True rice meal ..	8·0	2·0	8·0	..
Rice bran ..	11·0	10·0	13/20	14·0
Rice pollard ..	12·0	14·0	8·0	9·0
Rice polish ..	12·0	10·0	3·0	6·0

From this table it will be observed that the analysis gives a definite indication as to the proper designation of the by-product.

STOCK LICKS.

Substantial headway has been made in bringing the labels relating to the licks upon the market into line with present requirements with respect to showing the respective percentages of phosphoric acid (P_2O_5), lime (CaO), magnesia (MgO), iron (Fe), sulphur (S), and the respective forms in which they occur. The present position is as follows:—

Twenty-nine labels comply fully with the above requirements.

Twenty-one labels in the transition stage require to be amended when reprinted.

The purchasers of licks and combinations of licks and meals are becoming more discriminating in the placing of their orders and more conscious of the value of the different minerals present in their purchases, and the sellers of such materials who are practising economy by delaying the reprinting of their labels in order to show the percentage of all required minerals are following a "penny wise, pound foolish" policy.

The following table sets out the materials from which the various licks upon the market are compounded:—

LICK INGREDIENTS.

Ingredients supplying mineral matter, the declaration of the minimum percentage of which is required to be made on the label:—

Phosphoric Acid (P_2O_5) and Lime (CaO) bearing ingredients—
- Bone Charcoal (Carbo Animalis),
- Di Calcic Phosphate,
- Nauru Phosphate,
- Sterilised Bone Meal,
- Sterilised Bone Flour,
- Superphosphate.

Phosphoric Acid (P_2O_5) (only) bearing ingredient—
- Tri-sodium phosphate.

Lime (CaO) (only) bearing ingredients—
- Calcium Carbonate (whiting, &c.),
- Oyster Shell Meal,
- Slaked Lime.

Magnesia (MgO) bearing ingredients—
- Epsom Salts (Magnesium Sulphate).

Iron (Fe) bearing ingredients—
- Iron Sulphate,
- Limonite (Hydrated Iron Oxide).

Sulphur (S) bearing ingredients—
- Sulphur ground,
- Sulphur sublimed.

Iodine (I) bearing ingredients—
- Potassium Iodide.

Ingredients the maximum percentage of which is required to be set out on the label:—

- Meals—
  - Bran,
  - Cottonseed Meal,
  - Peanut Meal,
  - Rice Meal.
- Molasses.
- Salt.

Ingredients not set out above—
- Aloes,
- Aniseed,
- Charcoal,
- Cod Liver Oil,
- Copper Sulphate (Bluestone),
- Dugong Oil,
- Eucalyptus Oil,
- Gentian,
- Glauber Salts (Sodium Sulphate),
- Peppermint,
- Saltpetre (Potassium Nitrate),
- Sodium Bicarbonate.

SEIZURE.

The following table sets out the action taken by inspectors under the provisions of section 9 (*e*) of the Act—relating to the seizure of any stock food that does not comply with the requirements of the Act.

Quantity.	Kind of Stock Food.	Reasons for Action.	Action Taken.
29 bags ..	Stock Lick	Not registered	Seized and sealed
19 bags ..	Stock Lick	Not labelled or registered	Seized and sealed
16 bags ..	Laying Mash	Not registered	Seized and sealed
3 bags ..	Growing Mash	Not labelled or registered	Seized and sealed

STOCK FOODS IMPORTED FROM OVERSEAS.

The following table sets out the samples submitted for examination by the Chief Quarantine Officer, Plants, representing seeds imported from overseas for feeding purposes only, during the year ending June, 1937:—

Kind of Seed.	Imported from—	Number of Samples.	Number of Bags Imported.
			Bags.
Canary	England	3	8
Hemp	Japan	10	253
French millet	Japan	12	385
Rape	Japan, England	10	188
Maw	Holland	3	15
Mixed seed	England	1	3
Linseed	New Zealand	2	59
Setaria	Japan	2	70
Total	..	43	

The above consignments were examined and found to comply with the requirements of the Stock Foods Acts.

F. B. COLEMAN,
Officer in Charge.

REPORT OF THE CHIEF INSPECTOR OF STOCK.

The pastoral districts have experienced a fair season. In the north-west and central-west it was the best season for some years, notwithstanding that the monsoonal rains were disappointing. Relief was obtained through a series of storm rains, except in the south-eastern portion of the State, where very dry conditions prevailed, especially on the coastal country and the Darling Downs. The following figures of livestock in Queensland at 1st January, 1937, supplied by the Government Statistician, are preliminary only, and subject to revision:—

	Estimate at 1st January, 1937.	Actual Numbers at 1st January, 1936.
Sheep	20,011,749	18,060,093
Cattle	5,950,572	6,033,004
Horses	441,913	441,913

It will be seen that sheep increased by nearly 2 millions. The decline in cattle is attributable largely to serious seasonal adversity in the dairying districts.

A few bulls have been introduced from overseas, and a considerable number from the southern States. Fresh blood is necessary to maintain the quality of our export beef for the chilled beef trade more particularly. Queensland has, during the past year, exported approximately 80 per cent. of the beef exported from Australia.

Chilled beef experiments have been continued in co-operation with the Council for Scientific and Industrial Research and the Low Temperature Research Station, Cambridge. Chilled beef may lose a considerable amount of "bloom" on a protracted voyage, due probably to humidity in the ship's hold. Experiments so far have been promising, and it is hoped that as further research proceeds, the problem of loss of bloom, which is of great importance, may be solved.

In May, 1936, a peculiar disease of cattle appeared suddenly in the Gulf districts and affected large numbers. It was at first thought to be caused by some poison plant, but later, when spreading so rapidly to other parts, it was recognised as ephemeral fever or "three day sickness." As the disease had not previously been recorded in Queensland, it was scheduled as a disease under the Diseases in Stock Acts. Preventive measures were applied immediately. Cattle were not allowed to be removed from affected holdings until one month after disappearance of the disease; in other cases, cattle were detained during transit to clean areas. It soon became evident, however, that the precautions taken were of no avail, as the disease spread rapidly throughout the greater part of the State, and to New South Wales. Although the mortality was practically nil, and recovery usually took place within six or seven days, considerable inconvenience and losses were experienced by dairymen, and others who had to postpone the marketing of their fat stock. Investigational work has been conducted by departmental officers, and further investigations by both State and Federal officers are proceeding.

During a survey of the Gulf country it was found that the buffalo fly was present on twelve holdings. Infestation was heavy on properties adjoining the Northern Territory border, but only light on properties further east. Although the infested holdings were more numerous than in the two previous years, the fly did not extend over a greater area than in the first year of its discovery on Queensland territory. All cattle arriving at Kajabbi were found fly-free, and, consequently, spraying was not necessary.

The blowfly pest has been very prevalent, and it has been reported that the losses have been greater this year than previously. An offer of an area of land in the Cunnamulla District to the Council for Scientific and Industrial Research for sheep experimental purposes by the Queensland Government has been accepted. Although the experimental work in connection with the fly-strike problem will necessitate a long period of research, it is anticipated that it will eventually be of service in the control of this pest.

The Veterinary Medicines Act has considerably improved the standard of veterinary medicines. In many cases, labels bearing extravagant claims thereon have been altered. The sale of unregistered preparations has also been dealt with by the Veterinary Medicines Board.

TICK CLEANSING AREAS.

District Inspector McNeill, in charge of the Helidon cleansing area, reports that during the year the area has been extended further, bringing under regular inspection the whole of West Haldon, Black Duck Creek, Blackfellows' Creek, Mount Sylvia, Caffey, Tent Hill, and Sandy Creek sections—an area of approximately 40 square miles.

Two re-infestations of holdings occurred in the declared clean area, thus making a total of sixty-three re-infestations within the declared clean area during the past two years. These holdings are now being cleansed.

Cleansing operations were greatly retarded during the year owing to droughty conditions and the incidence of ephemeral fever, which prevented regular dipping just when ticks were most numerous. Given favourable conditions next season, there should be few infested holdings left in the cleansing area.

There are thirty-two dips in operation in the cleansing area, from which samples of fluid for analysis are submitted regularly. The approximate area now under cleansing operations is 550 square miles, embracing approximately 1,234 holdings, of which 249 are infested. This area carries about 23,000 head of cattle. The clean country in the area is approximately 250 square miles.

In the declared clean area, which has not been extended during the year, there are 928 holdings, embracing 1,429 square miles, carrying 30,000 head of cattle, over which supervision is exercised.

HELIDON CLEANSING AREA.

No. Holdings Inspected.	No. Stock Inspected.	Infested Holdings.	No. Stock Dipped.
2,813	94,464	466	34,532

SOUTH BURNETT CLEANSING AREA.

District Inspector McKinstry reports—

Yarraman.—Cleansing in the Yarraman section is practically finished. The thirteen infested holdings recorded are all on the eastern boundary, towards Blackbutt. As it would be unwise to attempt a complete clean-up of these holdings, or, under existing conditions, to extend the cleansing boundary, all that now remains is to hold the large stretch of clean country in the section, and keep the boundary holdings under control. The position regarding this section is very satisfactory.

Nanango.—The township area of Nanango remained clean throughout the year, and, apart from an infestation embracing two isolated holdings on the Stuart Range, no infestation occurred between the Nanango township and the Schedule T boundary. The balance of the recorded infested holdings are situated on the extreme eastern boundary, and in the Wyalla portion of the section. The situation in the Nanango section in respect to cleansing is well in hand, and the position is very satisfactory.

Kingaroy.—Results have been most satisfactory in the Kingaroy section, where only two holdings were recorded as infested, although probably unrecorded infestations occurred in the northern portion of the area. However, the township area remained clean throughout the year, and no infestation occurred between there and the Schedule T boundary, which embraces a very large area.

Wondai.—The Wondai section remains about the same as last year. Although fresh infestations with accompanying redwater occurred along the extreme northern boundary towards Wondai, there has been an improvement in the more important portion of the section, which includes the parishes of Ballogie and Peroone. The infestations towards Wondai referred to were the natural consequence of straying stock during the dry period from redwater country adjoining. That, however, did not materially affect the position, and as a recurrence is always probable, even in a normal season, it only proves the necessity of a graduated boundary in any area subjected to cleansing conditions.

Proston.—Cleansing around Proston was confined to the Lawson Settlement, in the parish of Lawson, and to a property situated in the parishes of Jua and Proston. Systematic cleansing had never previously been done in that vicinity, and all holdings were found to be more or less infested, but the infestations on the eastern slope of the settlement, which drains into Lawson's Broad Creek, were comparatively light. Regular dippings were carried out, and the position is apparently well in hand.

Boondooma.—Cleansing results in the Boondooma section, which now includes Durong, were not satisfactory. As thirty-six of the thirty-seven holdings recorded as infested are embraced in an area of only about 150 square miles, which is divided effectively into three separate compartments, cleansing results should certainly have been much better, but during the tick-breeding season cleansing dippings were held up on account of three day sickness in dairy herds at Durong. Since then dippings have been regular.

It can now be estimated safely that there is an unbroken line of clean country running parallel with the Schedule T boundary, of about 1,500 square miles, extending from the eastern boundary of the parish of Nanango to the western boundary of the parish of Chahpingah.

SOUTH BURNETT CLEANSING AREA.

Holdings Inspected.	Holdings Infested.	Total Infestations.	Stock Inspected.	Stock Dipped.
1,313	117	157	71,695	31,776

QUARANTINE ACT.

Live stock imported from overseas—4 bulls, 1 heifer; 13 dogs; 13 monkeys; 1 squirrel; 2 fowls, 5,637 aviary birds; 1,653 goldfish and other small fish.

Articles imported after complying with the Quarantine Regulations—15,675 lb. sheep bungs, 80,585 lb. hog casings, 2,468 lb. blood albumen, 59 hams, 262 cases meat samples, 40 cases frozen poultry, 22 frozen game birds, 56 used saddles, 23 articles of harness, 1,638 hides, 28 fur skins, 6 goat skins, 1 setting eggs, 56 skins (trophies), 24 miscellaneous sporting trophies, 17 bird cages, 8 animal cages, 4 kennels.

PROSECUTIONS.

Acts.	Number of Prosecutions.	Number of Convictions.
Diseases in Stock Acts	48	48
Slaughtering Acts	25	25
Brands Acts	2	2

TUBERCULIN TEST.

Animals submitted to the tuberculin test totalled 3,541, as compared with 3,880 in the previous year. There were 236 reacters. Details—

Purpose of Test.	No. Animals Tested.	No. Positive Reacters.
Tubercule Free Herd Scheme ..	2,140	83
Selected Animals—Elimination of T.B. in Swine	591	77
Various	810	76

DIPPING FLUIDS.

The number of dipping fluids analysed during the year was 414.

HORSES EXPORTED OVERSEAS.

Horses exported overseas numbered 2,476.

VISCERA EXAMINED DURING THE YEAR.

Viscera samples and toxicological specimens numbering 269 were analysed. Of this number 99 samples were found to contain arsenic and 10 contained other poisons. In 160 samples the common poisons were not detected.

PLEURO-PNEUMONIA CONTAGIOSA.

The total number of outbreaks was eighteen (18), as compared to thirty-five (35) the previous year. It is noteworthy that many districts enjoyed complete freedom from this disease during the period under view.

District.	1936.						1937.						Total.
	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April.	May.	June.	
Barcaldine	..	..	..	..	..	..	..	..	..	..	..	..	..
Bowen	..	..	..	..	..	..	..	..	..	..	..	..	..
Brisbane	1	3	..	..	..	..	..	..	1	1	1	1	8
Cairns	..	..	..	..	..	..	..	..	..	..	..	..	..
Charleville	..	..	..	..	..	..	..	..	..	..	..	..	..
Clermont	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	..	..	..	..	..	..	..	..	..	..	..
Emerald	..	..	..	..	1	..	..	..	..	..	..	..	1
Gladstone	..	..	..	..	..	..	..	..	..	..	..	..	..
Hughenden	..	..	..	..	..	..	..	..	..	..	2	..	2
Longreach	..	..	..	..	..	..	..	..	..	..	..	..	..
Maryborough	..	..	..	..	..	..	..	..	..	..	..	..	..
Normanton	..	..	..	..	..	..	..	..	..	..	..	..	..
Rockhampton	..	..	..	..	..	..	..	..	..	..	2	..	2
Roma	..	..	..	..	..	..	..	..	..	..	..	..	..
South Burnett	..	..	..	..	..	..	..	..	..	..	..	..	..
Toowoomba	..	..	..	..	..	..	..	..	..	..	..	..	..
Townsville	..	..	..	..	..	..	1	1	1	1	..	1	5
Warwick	..	..	..	..	..	..	..	..	..	..	..	..	..
Winton	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	1	3	..	..	1	..	1	1	2	2	5	2	18

TABLE SHOWING STOCK MOVEMENTS IN THE SEVERAL STOCK DISTRICTS FOR THE YEAR ENDED 30TH JUNE 1937.

District.	ENTERED DISTRICT.			REMOVED FROM DISTRICT.			MOVEMENTS IN DISTRICT.			STOCK DIPPED.		
	Horses.	Cattle	Sheep	Horses.	Cattle.	Sheep.	Horses.	Cattle.	Sheep.	Horses.	Cattle.	Sheep.
Barcaldine ..	4,648	21,221	392,427	4,737	29,205	462,722	6,649	12,897	888,677	..	..	..
Bowen	1,050	26,163	5,228	1,494	12,204	95	2,295	28,812	..	1	10	..
Brisbane	5,683	243,237	765,023	5,218	27,385	11,746	8,239	430,281	251,839	3,137	2,545	359
Cairns	911	3,529	15,773	4,767	55,638	..	12,279	91,479	659	316	3,754	..
Charleville ..	10,623	118,067	371,501	18,982	204,549	1,301,673	17,325	78,400	1,129,067	..	..	..
Clermont	383	3,447	10,787	1,712	40,601	67,944	5,577	30,290	196,004	65	295	..
Cloncurry	3,648	74,096	134,946	7,899	162,536	65,655	8,567	102,386	262,391	561	43,342	..
Emerald	1,540	9,899	67,752	4,281	59,293	231,684	6,837	47,670	155,297	269	13,287	5,800
Gladstone ..	1,187	27,958	1,676	1,770	19,592	81	1,912	37,272	..	1,159	1,116	..
Helidon	1,601	7,647	1,555	2,295	35,328	314	1,838	45,022	1	1,115	35,100	..
Hughenden ..	2,614	11,365	80,649	2,532	41,839	141,804	6,491	33,585	347,373	493	7,480	..
Longreach ..	3,579	39,764	141,635	4,774	49,872	353,299	7,802	17,801	60,519	..	..	..
Maryborough ..	2,270	30,601	25,992	4,820	118,757	896	6,545	220,494	2,157	168	12,949	..
Normanton ..	631	112	127	2,470	42,641	..	4,038	26,552	20	..	..	..
Rockhampton ..	1,323	51,812	57,906	2,903	35,231	50,342	14,553	218,116	71,955	320	4,293	..
Roma	2,116	31,210	145,168	9,253	124,505	560,261	13,574	218,772	1,067,756	541	10,543	..
South Burnett ..	2,341	32,672	8,251	4,498	136,460	4,788	9,730	217,669	208	1,143	76,635	..
Toowoomba ..	5,662	150,972	268,371	16,574	234,581	460,214	35,438	795,942	1,676,209	800	8,373	3,602
Townsville ..	7,012	126,612	25,980	7,783	40,968	3,007	10,052	42,249	3,068	57	18	..
Warwick	4,046	40,033	372,486	5,929	94,876	576,494	9,744	209,732	1,082,670	545	14,741	3,300
Winton	5,602	96,963	151,399	5,386	72,276	112,504	5,383	77,090	246,187	..	..	..

STOCK SOLD AT THE CANNON HILL SALEYARDS.

—	1935-36.	1936-37.
Bullocks	91,081	83,661
Cows	44,560	55,588
Calves	46,518	70,428
Sheep	406,790	454,649
Lambs	48,135	49,447
Swine	42,292	59,521

Total stock sold year ended 30th June, 1936	679,376
Total stock sold year ended 30th June, 1937	773,294
Increase in sale all stock sold year ended 30th June, 1937	93,918

Prices.	1935-1936.			1936-1937.		
Cattle.	£	s.	d.	£	s.	d.
Average value per cental—						
Chilled bullocks	1	7	3·35	1	6	11·95
Bullocks	1	3	9·06	1	4	11·60
Cows and heifers	1	1	6·52	1	3	1·34
Sheep.						
Average value per lb.—						
Wethers	0	0	3·88	0	0	3·52
Ewes	0	0	3·47	0	0	3·27
Lambs	0	0	6·21	0	0	6·61
Calves	0	0	2·86	0	0	3·25
Swine	0	0	5·23	0	0	5·86

"THE SLAUGHTERING ACT OF 1898."

The general tenor of departmental officers' reports regarding butcher shops indicate that the provisions of the Act and Regulations are receiving the attention necessary for their maintenance in a clean and satisfactory condition, and in a state of good repair.

Actuated by a realisation of the advantages from a trade point of view, butchers continue to make further replacements of obsolete premises and shop fronts, and many chilled display windows have been installed. It is gratifying to note the progress in this direction over the last few years.

Additional to the replacements mentioned, a further twenty-six shops have been erected during the past twelve months.

The requirements of the Regulations respecting vehicles used for the carriage of meat are being well observed.

Continuous wet weather in some northern localities hampered efforts to keep pig sties at slaughterhouses in a desirable condition, while the low-lying nature of the land in some of the country centres presents a difficulty in the matter of adequate drainage.

Periodical tarring and whitewashing of slaughterhouses has been done, and floors have been relaid in many cases. Any tendency towards laxity in the matter of the disposal of blood has been checked.

Dilatoriness has been encountered on occasions in submitting of notices of intention to slaughter, and in several cases prosecution has been necessary.

A total of twenty-four new slaughterhouses have been constructed in the course of the period under review.

BRISBANE ABATTOIR AREA.

Six new butcher shops have been registered in the Metropolitan area. The number of delivery vehicles has also been added to.

Regular visits have been made to all shops, and the prescribed standard has been maintained. With very few exceptions, the shops are in a clean and generally satisfactory condition.

Cash carts have been inspected regularly, and the standard is now more satisfactory than was the case a few years back; nevertheless, a further improvement is being aimed at, and the old shabby type of vehicle is gradually being put off the road.

ILLEGAL SLAUGHTER.

Notwithstanding a few reports of illegal slaughter which were assiduously investigated, no breaches of the law have been discovered.

This important matter has at all times been given the attention that it merits, and it is fairly safe to say that as far as the Brisbane area is concerned the practice of illegal slaughter has ceased to exist.

METROPOLITAN SHOPS.

The number of shops and vehicles registered by the Queensland Meat Industry Board to the 30th June, 1937, as compared with the two previous years, is as follows:—

—	1934-35.	1935-36.	1936-37.
Shops	322	278	284
Delivery vehicles	389	412	401
Cash cutting carts	112	88	77

BACON FACTORIES.

Bacon factory killings have decreased considerably, the totals having dropped below the level of the 1934-35 kill.

Number Slaughtered.	1934-35.	1935-36.	1936-37.
Pigs	324,107	383,207	315,837

Of the 1936-37 total, 22,730 pigs were slaughtered for export purposes.

Condemnations were as follows:—

Tuberculosis.	1934-35.	1935-36.	1936-37.
Carcases	3,354	3,791	3,081
Heads	24,869	29,580	22,939

In addition, 20,325 cattle and 9,014 calves were slaughtered at the bacon factories.

STOCK SLAUGHTERED AND CONDEMNED AT THE BRISBANE ABATTOIR.

The following statement shows stock slaughtered and condemned at the Brisbane abattoir for the home markets, stock killed for export not being included. The cattle killing has increased very slightly, while the increase in the killing of calves and pigs is more marked. The yearly decrease noted during the last few years in the killing of sheep and lambs has been converted this year into an increase over that of the year 1935-36.

Description of Stock.	1934-35.	1935-36.	1936-37
Bullocks	53,617	46,034	41,350
Cows	39,220	39,348	45,240
Calves	52,187	68,435	72,286
Sheep and lambs	406,499	328,892	344,279
Pigs	30,305	32,312	38,176

Condemnations for the period under review were as follows:—

Cause.	Bullocks.	Cows.	Calves.	Sheep.	Swine.
Tuberculosis	614	978	4	..	1,751
Bruising	85	128	28	11	7
Emaciation	478	943	6,234	304	39
Gangrene	79	114	9	..	13
Fever	8	21	1	191	8
Abscesses	21	38	150	312	27
Redwater	35	60	..	..	..
Jaundice	..	..	..	..	2
Actinomycosis	2	1	..	..	..
Metritis	..	3	..	..	..
Peritonitis	..	2	..	..	18
Pleurisy	..	2	..	..	..
Navel Illness	..	..	2	..	..
Pneumonia	..	..	..	1	1
Osteomylitis	..	..	..	..	1
Cysticercus Ovis	..	..	..	1	..

The return of stock slaughtered under the supervision of police acting-inspectors is as follows:—

Bullocks	34,263
Cows	44,721
Calves	4,928
Sheep	58,257
Swine	15,271

The following table shows stock slaughtered and condemned in the course of the year, and is compiled from returns furnished by permanent officers of the department performing slaughtering duties throughout the State, with headquarters at the following centres:—Atherton, Ayr, Beaudesert, Biggenden, Boonah, Boondooma, Bowen, Bundaberg, Cairns, Charleville, Charters Towers, Chinchilla, Clermont, Clifton, Cloncurry, Coolangatta, Cooroy, Crow's Nest, Dalby, Emerald, Gayndah, Gladstone, Goombungee, Goondiwindi, Grantham, Gympie, Helidon, Hughenden, Ingham, Innisfail, Ipswich, Jandowae, Julia Creek, Killarney, Kingaroy, Laidley, Longreach, Mackay, Malanda, Mareeba, Maryborough, Miles, Milmerran, Monto, Mount Isa, Mundubbera, Murgon, Nambour, Nanango, Normanton, Oakey, Pittsworth, Proston, Ravensbourne, Roma, Rockhampton, Rosewood, Toogoolawah, Toowoomba, Townsville, Warwick, Wandoan, Wondai, Wowan, and Yarraman.

The return of swine slaughtered is exclusive of those treated at bacon factories, a list of which is shown separately:—

Description of Stock.	Number Slaughtered.	Carcases and Portions Condemned.	Disease.	Percentage.
Bullocks	53,326	66 Carcases	Tuberculosis	·102
		31 Forequarters	Tuberculosis	·05
		9 Hindquarters	Tuberculosis	·01
		28 Heads	Tuberculosis	·05
		2 Carcases	Bruised	·003
		4 Forequarters	Bruised	·007
		2 Carcases	Emaciation	·003
		31 Heads	Actinomycosis	·05
		1 Carcase	Pleuro-pneumonia	·001
		1 Carcase	Malignant Growth	·001
		1 Carcase	Fever	·001
Cows	99,091	231 Carcases	Tuberculosis	·24
		29 Forequarters	Tuberculosis	·02
		12 Hindquarters	Tuberculosis	·01
		40 Heads	Tuberculosis	·04
		1 Carcase	Bruised	·001
		16 Forequarters	Bruised	·01
		5 Carcases	Emaciation	·005
		5 Carcases	Redwater	·005
		12 Heads	Actinomycosis	·01
		2 Carcases	Fever	·002
		1 Carcase	Lantana Poisoning	·001
		2 Carcases	Metritis	·002
Calves	13,663	146 Carcases	Underweight	·1
Sheep	216,911	5 Carcases	Emaciation	·002
		1 Carcase	Peritonitis	·0004
		2 Carcases	Caseous Lymph Adenitis ..	·0009
Swine	52,154	236 Carcases	Tuberculosis	·45
		1,021 Heads	Tuberculosis	1·95
		5 Carcases	Abscesses	·009
		1 Head	Abscesses	·001
		17 Carcases	Emaciation	·03
		1 Carcase	Bruised	·001
		2 Carcases	Swine Plague	·003
		1 Carcase	Jaundice	·001
		1 Carcase	Pyaemia	·001

The following is a summary of the total number of stock killed for home consumption throughout the State:—

Inspection.	Bullocks.	Cows.	Calves.	Sheep.	Swine.
Bacon Factories	5,000	15,325	9,014	..	315,837
Brisbane Abattoirs	41,350	45,240	72,286	344,279	38,176
Departmental Inspectors	53,326	99,091	13,663	216,911	52,154
Police—Acting Inspectors	34,263	44,721	4,928	58,257	15,271
Totals	133,939	204,377	99,891	619,447	421,438

ARTHUR H. CORY, M.R.C.V.S.,
Chief Inspector of Stock.

APPENDIX A.

REPORT OF SENIOR INSTRUCTOR IN SHEEP AND WOOL.

The Senior Instructor in Sheep and Wool, Mr. Jas. Carew, reports:—

Throughout the western and north-western sheep districts of the State weather conditions were favourable during the year. In the south-west and the Eastern Darling Downs a prolonged dry spell was the general experience.

West of the Dividing Range, from the New South Wales border to North Queensland, regular falls of rain occurred during summer and autumn. The pastures in that vast area are now in a remarkably good condition. In the far south-west, scrub feeding became necessary. Hand feeding was necessary in parts of the Darling Downs.

The health of the flocks generally in the Downs area has been much better than usual, due largely to the fact that worm infestation was lighter in the drier weather.

The demand for sheep, both ewes and wethers, has been exceptionally keen. In fact, the demand for breeding ewes for re-stocking could not be met.

Wool prices were at such a level as to maintain a high price for store wethers for wool production; prices were, consequently, in sellers' favour throughout the year. This fact also influenced the fat stock market, for graziers kept most of their young wethers for growing wool.

A good season, improved pastures and a substantial natural increase in flock numbers was, generally, the happy experience of the year. The conversion of large areas of cattle country to wool growing has also been a factor in the increase in the number of sheep.

Large areas of brigalow and belah lands have been brought into production. Sheep farming is among the chief interests of the new settlers.

Fat Lamb Production.

Owing to a year of light rainfall on the Darling Downs, where the great proportion of Queensland fat lambs are raised, production has been restricted. Notwithstanding the adverse conditions, many young, plump, and prime lambs, well up to the export standard, have been delivered at the Cannon Hill sale yards. The fat lamb scheme inaugurated by the Department has been a valuable influence in bringing about this improvement. Under this scheme, 5,400 lambs supplied by 20 farmers have been sold.

Some of the lambs could not be fattened until they were well advanced in age because of the prevailing dry conditions; while others out of condition were sold because of a shortage of feed. Conclusive data on which a comparison of the progeny of the different breeds could be made were, therefore, unavailable. In some cases, lambs of the same breeding were sold at an age ranging from 12 to 33 weeks. The best breeds for comparative purposes were the Border Leicester and the Dorset Horn progeny, as they were included in most of the sales extending over a long period. The following figures do not represent the number of lambs sold, but only those of which particulars were supplied under the fat lamb scheme:—

Breed of Rams used.	Lambs included in Sales.	Number of Lambs in all Sales.	Prices Received.	Average from Total Sales.
	Sales.	Lambs.	s. d.	s. d.
Border Leicester . .	23	2,163	14 9 to 28 2	20 6
Dorset Horn . .	28	1,982	11 0 to 25 0	19 6
Romney Marsh . .	10	908	18 0 to 24 2	20 10
Southdown . .	10	370	18 8 to 24 2	21 2

More sheep of British breeds were brought from the southern States and allotted to farmers, mostly those sheep farming in a small way and engaged in diversified agriculture. Consideration was also given to farmers with larger areas in close proximity to the fattening country with a view to raising half-breds—the ewe progeny to be retained to provide suitable breeders required by farmers who are raising lambs of the export type.

Several farmers in districts other than the Darling Downs are now interesting themselves in this branch of the industry. Rams are now on loan in places along the coast from near the New South Wales border to the Atherton Tableland.

On the Atherton country both ewes and rams are under trial. So far only merino ewes have been used, and with them one ram of either the Border Leicester, Romney Marsh, Dorset Horn or Southdown breed have been placed. Results have been generally most encouraging.

Wool Sales.

Ten series of wool sales were held during the year, the prices as follows:—

Sale.	Greasy per Bale.	Per lb.
	£ s. d.	d.
No. 1	17 11 1	13·01
No. 2	19 12 3	14·95
No. 3	21 18 7	16·67
No. 4	24 14 0	19·21
No. 5	21 19 9	17·01
No. 6	22 6 9	16·94
No. 7	24 13 11	18·49
No. 8	21 12 11	16·41
No. 8	21 3 5	16·22
No. 10	20 4 6	15·52
Average for season	21 13 9	16·51

The wool sold, including greasy and scoured, amounted to 492,266 bales, the cheque for which was £10,690,878 14s. 4d. In addition to the quantity sold at Brisbane, a small proportion was shipped direct, or despatched to Sydney. Clearances at each sale were most satisfactory, and only 6,541 bales remain as a carry-over. Prices realised at the last three sales showed a steady decline from sale No. 7, which was almost on a par with No. 4—the highest of the season. The actual value of the clips offered in the three June sales showed an appreciable falling off, as mostly all catalogues had included prematurely shorn or more than the average percentage of low wool and crutchings as are usually found in the cleaning up sales of the season.

HEALTH OF THE FLOCKS.

Generally, the health of the flocks was satisfactory. Stomach worm infestation was worse than usual in the far west, due, no doubt, to the more regular summer rains. Infestation was much lighter on the Darling Downs, because of the very dry season in that district.

A greater incidence of sheep lice is causing much apprehension to sheep owners in reputedly clean areas further west. Sheep away from their home pastures on agistment are probable sources of infestation. Every precaution against introducing this pest to clean flocks is necessary. Weather conditions have no doubt been conducive to a more general spread of the pest.

During the early portion of the year blowflies did not give much trouble, but they increased rapidly after late summer rains. As autumn advanced swarms increased, became particularly active and remained so in many districts until winter.

An investigation into sheep blowfly control is in progress on a property near Milmerran. Thirty young maiden ewes were purchased and placed in the station flock early in May. Each animal has been ear-tagged with a number for observation purposes. A claim that sheep can be protected from blowfly strike without resort to any known fly specific now in use, or any chemical, is the chief subject of the investigation.

Visits to farms, lectures and demonstrations at rural centres were included in the regular instructional services of the sheep and wool section. In addition, instructional and advisory articles have been contributed regularly to the departmental publications.

FARMERS' WOOL SCHEME.

Under the farmers' wool scheme, wool is received from:—

(1) Holdings of less than 1,500 merino sheep;
(2) Crossbred or British flocks from any holding;
(3) Bags, butts or bar bales from any holding;
(4) Star lots from selling agents.

This allows for a useful service to small flockowners. Consignments received in the course of the year aggregated 233. Considering the variety of types of wool handled and that the average obtained for the whole of Queensland was 16.51d. per lb., the prices realised were satisfactory.

The satisfactory condition of pastures in nearly every grazing district in the State and a continuance of the ruling prices of pastoral products ensure a period of prosperity.

With abundant pastures in most of the grazing districts of the State and a continuance of the ruling values for its products, the outlook for the pastoral industry is very encouraging.

APPENDIX B.

REPORT OF THE DEPUTY REGISTRAR OF BRANDS.

DETAILS OF REGISTRATIONS, TRANSFERS, &C. FOR YEAR 1936-1937,

——	Number.	Fees Received.			Number since Inception of Legislation.
		£	s.	d.	
Three-piece brands registered	474	474	0	0	86,671
Cancelled brands reallotted	45	135	0	0	7,027
Symbol brands registered	17	127	10	0	1,593
Cattle earmarks registered	263	263	0	0	27,791
Brands transferred ..	1,702	851	0	0	52,731
Sheep brands and earmarks registered ..	255	161	0	0	12,196
Sheep brands and earmarks transferred ..	284	71	0	0	5,985
Distinctive brands registered	12	No fee			..
Alteration of Address of Brands	604	No fee			..
Brands cancelled (ordinary)	24	No fee			
Brands cancelled (special)	11,439	No fee			..
Earmarks cancelled (ordinary)	117	No fee			..
Earmarks cancelled (special)	1,184	No fee			..
Total		£2,082	10	0	

Further progress has been made in connection with the cancellation of disused brands and earmarks, 11,439 brands and 1,184 cattle earmarks having been cancelled in accordance with Sections 18 and 19 of the Brands Acts after formal notice of intention to cancel had been sent to the owners concerned and no objections received to the cancellations.

The Brands Directory, complete to the end of 1936, has been published. As the last Directory was issued in 1934, the work of revision has been very heavy, especially as the brands and earmarks cancelled during the past two years have been included in the latest issue.

Warnings were given in the case of minor breaches of the Brands Acts and two offenders were prosecuted and fined.

H. S. ILIFF,

Deputy Registrar of Brands.

APPENDIX C.

STAFF INSPECTOR'S REPORT.

Mr. L. D. Carey, Staff Inspector, reports:

In the course of the year inspections were made of practically every district in the State. Dry seasonal conditions in many parts of the State affected adversely both agricultural and dairying industries.

Field officers of the several branches of the Department have maintained a high standard of efficiency.

An effective control on stock movements has been maintained. No infestation of clean country by ticks has been reported. The services of officers in connection with stock ailments and disease have been available at all times.

Many improvements to slaughtering premises throughout the State have been effected. Particular attention has been given to the inspection of animals slaughtered for human consumption.

An efficient service has been given by officers at all bacon factories.

There has been an increase in the number of cattle and calves slaughtered, but a decrease of 67,370 pigs. This was due to abnormally dry seasonal conditions. A decrease of ·01 per cent. is shown in the table of condemnations incorporated herein.

Dairy inspections aggregated 20,486. Improvements to dairy premises are reported from many districts.

The committee appointed to co-ordinate cream transport routes commenced duties in the course of the year, and 528 cream routes have been gazetted. The work is now nearing completion.

REPORT OF THE DIRECTOR, ANIMAL HEALTH STATION, YEERONGPILLY.

The routine work of the Animal Health Station at Yeerongpilly, as tabulated below, was not as heavy as in the previous year, due probably to the dry conditions prevailing throughout most of the dairying districts of the State.

The inward correspondence, amounting to 3,925 letters, and the outward, 5,617, dealt chiefly with information bearing directly on ailments of stock.

SUMMARY.

Product.	1935-1936.	1936-1937.
Mammitis Vaccine ..	28,119 doses	18,595 doses
Blackleg Vaccine ..	765 doses	550 doses
Virus	69,332 doses	66,725 doses
Setons	11,610	14,000
Blood	3,495 doses	4,204 doses
Bleeders	14	31
Stud animals stalled for inoculation	53	88
Specimens submitted ..	5,820	4,656
Inward correspondence	4,211	3,925
Outward correspondence	7,276	5,617
Visitors	349	200
Contagious abortion samples received ..	3,938	3,924
Acaprin	..	581

Research work is also included among the normal activities of the station.

Mastitis vaccine has not been used to the same extent as in the previous year. A few complaints as to efficacy of this vaccine—probably amounting to less than 5 per cent.—have been received. The difficulty hitherto has been due largely to the fact that this vaccine had been used as a prophylactic among herds which were also infected with contagious abortion, thereby decreasing the efficiency of the mastitis vaccine. Injecting such herds with a 40 per cent. dead culture of contagious abortion in the vaccine is now practised, and this seems to meet the case to a large extent.

Many heifers calving for the first time were found to be badly infected with mastitis. Although it is not definitely known that the habit of heifer calves sucking each other is conducive to this condition, it has been found to be very prevalent in herds where calves are not fed in separate feeding bails.

Blackleg was more prevalent during the year than in the past, as indicated by the extent to which prophylactic inoculation had apparently become necessary. By not continuing the inoculation year after year, stockowners are frequently lulled into a false sense of security after one year of comparative immunity from the disease, with the result that the losses mount up again in the following year. The use of a so-called counter irritant, a very old practice, is still common in some parts of Queensland. It is of little assistance as a measure of control, for after a series of years of small loss, the mortality from blackleg suddenly increases. The use of a suitable vaccine to prevent the loss then becomes necessary.

Pleuro pneumonia virus-vaccine has given uniform satisfaction and has been used widely, not only in Queensland but in Northern and Central Australia. There have been no complaints of any ill effects after its use. As compared with the natural virus, it is excellent and well worth the cost of production. It is possible to procure it at any time and there is no necessity to wait until an outbreak of pleuro-pneumonia occurs. Station owners have been advised to take advantage of this facility to rid their herds of pleuro pneumonia contagiosa, which is undoubtedly one of the worst scourges that afflict travelling cattle in Queensland.

The use of acaprin as a specific against tick fever is now largely practised. It has given satisfactory results in cases of fever subsequent to artificial inoculation with virulent blood of tick fever.

Contagious abortion is a disease of cattle which is more insidious and far-reaching in its incidence than tuberculosis. It seems to be spreading gradually among dairy herds, but not to the same extent among beef breeds of cattle. Tests are made at the station free of charge.

Mature animals, as a rule, are less susceptible than young animals to tuberculosis, but when they are infected with contagious abortion they become very susceptible. Contagious abortion is so easily spread that its presence in any particular district or locality is very serious, for infection is carried far and wide in a very short time.

Facilities have been provided for the Department of Public Health to investigate the aetiology and pathology of "Q" fever.

In conjunction with the Agricultural Chemist, an investigation of stock mortality due to the saw-fly larvæ has been in progress for some considerable time.

Appreciable progress has been made in respect of the investigation of causes and means of controlling poultry diseases, notably "blackcomb" and "pullorum disease." A species of Monilia has been isolated from a pigeon, and experimental work is proceeding.

Poultry feeding experiments, designed to determine the most suitable and cheapest ration for egg production, are also in progress.

Field experiments have been commenced to ascertain the association of so-called bracken poisoning of cattle with hæmorrhagic septicæmia.

Experimental work has also been instituted to find out, by feeding tests, the circumstances in which mortality due to poisonous plants occurs; and to test out those plants commonly believed to cause death among stock.

A wide variety of diseases and conditions affecting domestic animals and birds was encountered, in addition to those already mentioned, and the following are amongst the most important:—Arsenical poisoning in cattle; arsenical poisoning in sheep; ergot poisoning in cattle; plant poisoning in cattle; plant poisoning in sheep; contagious pneumonia in pigs; hæmorrhagic septicæmia of pigs; posterior paralysis of pigs; filariasis of dogs; bacilliary white diarrhœa of chicks; coccidiosis of poultry; and blackhead in poultry.

Numerous advisory leaflets dealing with parasitic and disease control have been distributed during the year.

Attached hereto are the reports of Dr. F. H. S. Roberts on entomology and parasitology; Dr. John Legg on tick fever; and Mr. F. B. Smith on the effect of halophilic organisms on salted meats.

J. A. RUDD, Director.

STAFF REPORTS.

Dr. F. H. S. Roberts, Entomologist and Parasitologist, Animal Health Station, Yeerongpilly, reports:—

An aggregate of 282 specimens was received for examination. This number is far in excess of that received in any previous year, and is due, chiefly, to specimens submitted in connection with "three-day sickness" of cattle and with a survey which is being carried out to determine the distribution and prevalence of the gastro-intestinal helminths of cattle. Many specimens were also received from the Animal Health Station, Oonoonba.

CATTLE.

Cattle Poisoning Saw-fly (*Pterygophorus interruptus*).—A serious outbreak among cattle in the Maranoa and adjoining districts associated with the eating of larvæ of this insect occurred during the late winter of 1936. The problem is now recognised to be associated with a deficient diet and is being investigated by the chemist and veterinarian, as it no longer comes within the scope of the entomologist.

Cattle Lice.—As in previous years, lice were very prevalent during the winter and spring of 1936 among cattle in the southern and central coastal and sub-coastal areas. In the opinion of stock inspectors and pastoralists, heavy infestations are associated with poverty. As, however, stabled animals in excellent condition but ungroomed, may become heavily infested, the factors governing the extent of an infestation would appear to be chiefly associated with the condition of the skin and coat. The species concerned has been *Haematopinus eurysternus* in all cases which were investigated.

The tubercle bearing cattle louse, *Solenopotes capillatus*, which was previously known to be present in Queensland only at Gatton, has been recently taken at Goondiwindi.

Arsenical dips, without the addition of phenols, appear to be little effective against sucking lice. Promising results, however, have been secured with two dippings of the usual arsenic and soda dip, to which cresylic acid had been added at the rate of .75 gallons per 400 gallons of dip.

"Three Day Sickness" of Cattle.—The rapid spread of this disease throughout the State during 1936 and the summer of 1937, indicated the possibility of an insect vector. In the East Indies and in Africa, mosquitoes are suspected. A survey of the biting insects in three endemic areas, the North Coast, the Brisbane district and the Darling Downs, was made during the 1936-1937 summer. At the time of the survey, drought conditions existed in all areas. Sandflies were practically non-existant, *Tabanidæ* were rare. The Stable fly, *Stomoxys calcitrans,* was fairly prevalent in all parts surveyed. Mosquitoes were numerous. Of this family, 15 species were encountered; of these, however, only two *Aedes vigilax* and *Mucidus alternans* were common to the three districts surveyed. Both species breed in salt water and are migratory. *Mucidus alternans* may breed, however, in fresh water also and was already known from the Darling Downs. *Aedes vigilax* had never been previously known to occur further west than the foot of the Great Dividing Range. On this survey, it was the dominant mosquito as far out as Goondiwindi, occurring in enormous numbers along the banks of the Condamine and the McIntyre Rivers and of several creeks.

At Yeerongpilly, a trap containing cattle is in use in order to give some idea of the seasonal abundance and prevalence of local biting flies.

Gastro-Intestinal Helminths of Cattle.—Losses among young cattle through worm infestation is by no means uncommon in the coastal and sub-coastal areas. On occasions, outbreaks have occurred as far west as Chinchilla in the south and Blackall in the central west. These outbreaks occur chiefly during the winter and spring and are, to some extent, associated with the state of the pastures, which at this time of the year are dry and of little nutritive value.

A survey was commenced in 1936 to determine the prevalence and distribution of the various gastro-intestinal helminths by examining both healthy and affected animals. *Hæmonchus contortus, Cooperia spp.* and *Oesophagostomum radiatum* appear to be the most important species. One case was encountered in a three months' old calf of a massive infestation of *Strongyloides papillosus,* associated with progressive emaciation and weakness.

Ostertagia occidentalis and *O. marshalli* are recorded from cattle in Australia for the first time. A species of *Cooperia,* resembling *C. africana* Mönnig has been observed on several occasions.

Preliminary work on the closure of the œsophageal grove in cattle indicates that in calves 6 to 12 months of age, and in fair to good condition, closure may be brought about by copper sulphate. With animals in an advanced anaemic and weak condition, however, copper sulphate is not very effective.

SHEEP.

"Strike" in Sheep.—During the winter and early spring of 1936, a severe wave of "strike" occurred in the Central and South-West of the State. The details of this epidemic are unknown as no reports were at any time received from stock inspectors in the areas concerned. No maggot specimens were forwarded. Dr. I. M. Mackerras, Division of Economic Entomology, C.S.I.R., however, has stated that *Calliphora nociva* and *Lucilia cuprina* were the flies concerned.

Gastro-Intestinal Parasites of Sheep.—The survey of the prevalence and distribution of these helminths commenced in 1935, was completed late in 1936. The report was published as Pamphlet No. 8 from this Station.

The year was not a bad one so far as the effects of these parasites were concerned. Copper suphate is being recommended for *Hæmonchus contortus* and copper sulphate, plus nicotine sulphate, for *Trichostrongylus spp.,* or where a mixed infestation of *H. contortus* and *Trichostrongylus spp.* is present.

Reports on the use of the copper sulphate-nicotine sulphate drench, as recommended by the C.S.I.R. for *Trichostrongylus spp.,* indicate that this drench should be used with extreme caution and applied only when absolutely necessary. Careless mixing may lead to serious effects.

The use of "hurry up" methods, especially where drenching guns are employed, may cause bruised palates and throats, with the consequent rapid absorption of the nicotine sulphate into the surrounding tissues. As a result, toxic effects are seen. In experienced hands, however, this drench has given excellent results and is the only drench of any value against *Trichostrongylosis.*

Oesophagostomiasis in Sheep.—During the year tests were carried out with a South African formula, which is claimed by its originator, Dr. H. O. Mönnig, to give at least a 75 per cent. efficiency against nodule worm of sheep. This formula consists of copper tartrate, copper arsenate and calcium hydroxide which is given as a powder immediately following the administration of 10 per cent. copper sulphate. Dr. Mönnig's recommendations were followed as far as possible, but the results of tests on 33 sheep were very disappointing, as in only a comparatively small number of sheep was a reasonably high efficiency secured.

Liver Fluke (*Fasciola hepatica*).—This fluke is now reported from the Stanthorpe district. Previously it was known only from certain areas on the North Coast, where it is at times serious among cattle.

Paramphistomum cotylophoron.—The occurrence of this fluke in sheep running on this Station is of interest. The species had probably been introduced by cattle in which it has been seen on several occasions. Le Roux has shown that this fluke may be very pathogenic to sheep, the larval stages in the duodenum causing a severe enteritis.

Hookworm (*Bunostomum trigonocephalum*).—The only area in which this helminth was known to occur among sheep in Queensland was at Caboolture. Recently, the species has been seen among sheep running in paddocks attached to this Station.

POULTRY.

The Large Roundworm (*Ascaridia galli*).—Field tests were carried out with nicotine sulphate as a mass treatment and carbontetrachloride as an individual treatment for the large roundworm. Promising results were obtained with nicotine sulphate. Further tests are to be conducted during the coming season. The results of the entire investigation into the biology and control of this roundworm were published as Bulletin No. 2 of this Station.

The Cæcum Worm (*Heterakis gallinæ*).—Investigations into the pathogenicity of this helminth were completed early in the year. It was found that the life cycle may be completed in twenty-four days and that during the first five days after infestation the larvæ may occur in the cæcal wall.

The role of the worm as a vector of "blackhead" was confirmed. In the presence of this disease the growth of the worms is considerably retarded.

In the absence of "blackhead," *Heterakis gallinæ,* unless present in very large numbers, which appears to occur comparatively rarely, is considered to be of little economic importance.

DOGS.

Since the recording of the presence of *Dirofilaria immitis* in a dog from the Brisbane district, the species has been seen on two other occasions in dogs in this area. In one animal about 80 large worms were present. The second animal presented an advanced case of ascites, which condition was considered to be associated with infestation.

The Kangaroo Louse (*Heterodoxus longitarsus*).—An extremely heavy infestation of this louse was encountered on puppies at Goondiwindi. It is considered that a survey would show this louse to be very prevalent among dogs in the West.

FIELD DAY.

On 14th April a field day of the southern canegrowers was attended at Nambour, and the gathering addressed on the parasitic diseases of horses.

Dr. John Legg, Senior Veterinary Officer, Animal Health Station, Yeerongpilly, reports:—

TICK-FEVER IMMUNISATION.

The inoculation of cattle against tick fever and anaplasmosis has been continued along the lines laid down in 1935. This method involves the use of *P. Bigeminum* and *A. Centrale,* both of which are carried by the one reservoir (bleeder).

The method appears to be fairly satisfactory. No losses have occurred following inoculation at the Station. A considerable quantity of blood has also been distributed to the field. In most cases reports following its use have been satisfactory, but there have been occasions in which there has been a doubt as to whether the vaccine used is still viable and capable of invoking a reaction after it reaches its destination. By making use of the aerial services, blood is being more expeditiously distributed to the more outlying centres and the difficulties associated with a possible loss of infectivity are being overcome. It would appear that the piroplasm fraction of the vaccine is the more fragile, the anaplasm being more resistant.

From an examination of material sent to the laboratory, the evidence indicates that by far the most common form of tick fever in the field is that caused by *Babesiella argentinum.* This organism is not always easy to discover in the blood of the perepheral vessels, even in severe cases, but there is usually no difficulty in finding it in kidney smears from animals dead from the disease.

Acaprin has been used extensively in the field. While we have no experimental evidence regarding its value in babesiellosis, its use in natural outbreaks of the disease seems to be fully justified. It is hoped to test out this drug on experimentally produced cases during the present year.

There is no doubt that many owners require further advice on the subject of tick fever and the methods of control. This is evidenced in the communications which are received from many of them. There is a large area of cattle country where the ticks are only present in small numbers. This area is found between the definitely infested and the definitely clean country, and represents a strip that roughly follows the coastal and inland watershed. Much of this country is excellent cattle country and many owners would undoubtedly inoculate more freely if a thorough and complete field organisation were present to assist them. It is hoped that this in time will come and the dangers and difficulties associated with inoculation be at least, to some extent, removed.

While tick fever must be occurring very frequently throughout the tick-infested areas of Queensland the amount of material sent in by the different inspectors varies greatly. Many inspectors send no specimens whatever; others are particularly assiduous, the outstanding examples being Inspector Anderson, of Gympie, and Inspector Culhane, of Toogoolawah.

Mr. C. R. Mulhearn, B.V.Sc., Acting Director, reports:—

On the 1st October, 1936, the Animal Health Station at Oonoonba was taken over by the Department of Agriculture and Stock from the Council for Scientific and Industrial Research, which body had been carrying out research into animal health problems affecting North Queensland during the previous five years. The transfer was made for the purpose of general administration of veterinary services in that area of North Queensland embracing the country controlled by the district inspectors of stock at Townsville, Atherton, and Cloncurry, i.e., that portion of the State north of and including Mackay.

From the 1st October, 1936, to the 30th June, 1937, the administration of veterinary services was carried out from the Animal Health Station, Oonoonba, where a staff comprising two veterinary officers, technical assistants, a clerical officer, and outside employees was maintained. The field staff comprised two veterinary officers, one stationed at Atherton and one at Cloncurry, three district inspectors, and fifteen stock inspectors.

For the purpose of this report the work done in North Queensland is recorded under two headings:—

1. The activities of the Animal Health Station.
2. The administration of veterinary services and control of stock diseases in the field.

ANIMAL HEALTH STATION ACTIVITIES.

The functions of the Animal Health Station during the period were:—

- (i.) General diagnosis, including survey work.
- (ii.) Research work on local problems.
- (iii.) Immunisation of cattle against tick fever.
- (iv.) Supply and distribution of vaccines.

(i.) *General Diagnosis.*

In connexion with the general diagnosis, 580 specimens were received from all districts in the North Queensland area. Cattle disease specimens were by far the most numerous, comprising approximately 75 per cent. of the total received, while of the other species of domestic animals sheep provided 10 per cent.; horses, 6 per cent.; pigs, 5 per cent.; and miscellaneous (dogs, fowls, and other animals and birds), 4 per cent. In addition to pathological specimens, a large number of suspected poison plants and insects were received for identification.

The diseases most commonly encountered as a result of examination of specimens were—

Bovine tick fever.
Ephemeral fever.
Contagious mammitis of bovines.
Tuberculosis of bovines and pigs.
Ram mortalities.
Filariasis in dogs.
Contagious abortion of bovines.
Contagious pleuro-pneumonia of bovines.
Contagious pneumonia of swine.
Posterior paralysis of swine.
Fleece lifting from sheep.
Gastro-enteritis in horses.
Swamp cancer of horses.
Ulcerative spirochætosis of swine.

In addition to general diagnostic work, arrangements were made for the submission of specimens in connection with a survey of internal parasites of bovines. In carrying out this project, numerous sets of specimens were submitted by field officers in the northern area to the parasitologist at the Animal Health Station, Yeerongpilly. They were collected from localities extending from Mackay, in the south, to the Atherton Tableland, in the north.

A survey of the incidence of cattle lice was made out, and this indicated that the sucking louse (*Hæmatopinus eurysternus*) is present in North Queensland, and that other species are also probably present. Lice-infested cattle are chiefly confined to the coast. The parasite is very rare, except in the winter time, and even then it is of little economic importance. It is considered that the lice are largely kept in check by the regular dippings for the control of the cattle tick.

A survey of the incidence of sheep lice indicated that both the red-headed louse (*Bovicola ovis*) and the foot louse (*Linognathus pedalis*) are present in an area of country in the Hughenden district, but that these parasites are not recorded from any other sheep-raising districts.

A survey of the incidence of biting insects which may be concerned with the transmission of ephemeral fever is now in progress.

(ii.) *Research Work on Local Problems.*

Ephemeral Fever.—This disease was diagnosed at the Animal Health Station in October, 1936. Since then a considerable volume of work has been carried out dealing with nature of spread and transmission of the disease, nature of the causal organism, immunity, and the species of animals affected. An account of this work is given elsewhere.

Tick Fever.—An investigation, in co-operation with the Council for Scientific and Industrial Research, to ascertain if anaplasmosis can be transmitted from affected to clean animals in a tick-free environment under North Queensland conditions is proceeding. This work is being done at the Animal Health Station, where the inner paddocks are maintained as tick-free areas. In addition, the experimental animals are housed in an enclosure completely surrounded by a moat containing a disinfectant solution. Special precautions are being taken to ensure that ticks cannot be carried into this enclosure by attendants, in the feed, or in any other way.

The value of acaprin in the treatment of tick fever, due to *B. argentinum*, both in experimental and field cases, has been tested. This work has confirmed previous observations that acaprin has a definite value in the treatment of babesiellosis.

Fleece Lifting of Sheep.—Some preliminary investigations have been made to gain information on the cause of this disease. This work would suggest that the condition is not contagious, but probably of dietetic origin.

Poison Plant Investigation.—Feeding experiments carried out with *Wedelia asperrima* (yellow daisy), a plant found commonly in North-western Queensland, proved that this plant is highly toxic to sheep and goats. It is possible that it may have been the cause of some of the unexplained mortalities in sheep during recent years. The rattle pod (*Crotalaria dissitiflora*) and Flinders grass (*Iseilema vaginiflorum*) parasitised with smut were also tested on sheep, but neither produced any harmful effects.

(iii.) *Immunisation of Cattle Against Tick Fever.*

Five stud bulls were immunised at the station in the course of the period under review, and, in addition, 10 stud animals were inoculated while passing through Townsville to their destination. The immunisation was successful in all cases, for there is no known record of any sickness or mortality following exposure to ticks. Two reservoirs (bleeders) were supplied from the station, and the veterinary officer at Cloncurry inoculated 3,400 head of cattle from these animals, with little if any mortality. This group of animals was grazing on country in the vicinity of the tick-infested area, and it is probable that a large percentage would be susceptible to tick fever at the time of the inoculation.

Approximately 300 doses of blood were supplied from the station for inoculation of clean animals, mostly herd bulls, prior to being transferred from tick-free to tick-infested pastures. Particular care was taken to ensure that this blood was used in less than twenty-four hours after being withdrawn from the reservoir. It was ascertained that a large percentage, if not all the animals, that could be kept under observation reacted as a result of the inoculation. No deaths were reported following exposure to tick infestation in their new environment.

(iv.) *Supply and Distribution of Vaccines.*

Doses of vaccine numbering 76,585 were forwarded from this station for inoculation of cattle against contagious pleuro-pneumonia. Most of this vaccine was used for the preventive inoculation of healthy animals before travelling. A small quantity was used to control outbreaks of the disease.

Doses of contagious mammitis vaccine numbering 200 were prepared at the station and despatched to owners of dairy cattle.

ADMINISTRATION OF VETERINARY SERVICES.

For the purposes of administration of veterinary services in North Queensland, the area has been divided into three districts—

1. A central district with headquarters at Townsville. This district extends from Mackay to Tully along the coast, and to Hughenden in the west. Most of this area is taken up with the grazing of beef cattle, but it also extends into the sheep-raising country in the vicinity of Hughenden.
2. A northern district with headquarters at Atherton. The principal dairying centres of North Queensland are situated in this area, and the stock population is chiefly made up of dairy cattle, beef cattle, and pigs.
3. A western district with headquarters at Cloncurry. The northern portion of this district is stocked mainly with beef cattle; the southern portion is made up of sheep and cattle holdings.

DISEASES OF CATTLE.

Ephemeral Fever.—Ephemeral fever was diagnosed in the Townsville district in October, but investigations indicated that this disease was first reported in the north-western corner of Queensland during the early months of 1936, where it assumed epizootic proportions and large numbers of cattle were affected. The disease spread gradually from the north-western corner of the State in an easterly direction, reaching the north-eastern coast in the Cairns district towards the end of July in the same year. It then spread gradually in a southerly direction, reaching Townsville and Bowen in September, and Mackay in October. In some centres from which reliable information was collected it was ascertained that the morbidity rate was very high, ranging from 90-100 per cent. among dairy cattle on parts of the Atherton Tableland; but as a general rule the mortality rate was low, being under 1 per cent. The disease was of considerable economic importance because of interference with mustering and travelling of beef cattle, and reduced milk production and general inconvenience to dairy farmers. As soon as a diagnosis was established, an effort was made to control the spread of the disease by quarantine of affected and recently recovered animals, and by preventing the movement of stock from infected to clean areas. In spite of all precautions, however, the disease continued to spread, and, consequently, some of the restrictions were lifted. By the end of March, 1937, the disease in its epizootic form had almost disappeared from North Queensland, but sporadic cases continued to occur in isolated places up to the end of June.

Cattle Tick Infestation and Tick Fever.—Following heavy rainfall during the autumn and winter of 1936, tick infestation became heavier than normal and the area of infestation spread, with the result that several properties which had been free of ticks for some years became reinfested and outbreaks of tick fever occurred, The area of infestation extended to the great northern railway line at several centres between Cloncurry and Hughenden, but restrictions on the movements of tick-infested cattle prevented the spread of the parasite beyond the railway line between those towns. Investigations have indicated that there are three very lightly infested or tick-free areas surrounded by moderate to heavily tick-infested country in North Queensland. Considerable loss and inconvenience is experienced each year when cattle are moved from these areas, due to the animals becoming tick infested and developing tick fever. The most important of these areas is in the Georgetown district, while others are in the Atherton and Charters Towers districts.

The losses due to tick fever in the period under review have been unusually high. Eighteen outbreaks of the disease were reported, and the known deaths in these outbreaks varied from 2 to 70 animals. It is not possible to give an accurate estimate of the total losses from this disease, for it is suspected that a large number of outbreaks are not reported; again, with station cattle ranging over a large area of country, it is difficult to ascertain the mortality rate.

Babesiella argentinum was the only organism detected from an investigation of 23 field cases. No outbreaks of piroplasmosis or anaplasmosis were recorded. This information confirms previous observations that *B. argentinum* is most commonly responsible for obvious field cases.

Contagious Pleuro-pneumonia.—Seven outbreaks of contagious pleuro-pneumonia were reported, and all were controlled successfully by means of quarantine and inoculation. Six of these outbreaks were recorded in the vicinity of a large town, and all occurred in the central district. No outbreak of the disease was reported from the Gulf or Peninsula, but investigations at slaughtering centres in several of the larger towns indicated that encapsuled contagious pleuro-pneumonia lesions in the lungs and pleuritic adhesions are by no means uncommon in cattle which have come from those districts. Preventive inoculation also is practised widely in travelling stock, and occasionally in station stock, from this area. Over 70,000 doses of vaccine were supplied for this purpose from the Animal Health Station, and it is also known that natural virus has been used, consequently the incidence of this disease is probably higher on the large cattle stations than is recorded from reported outbreaks.

Tuberculosis.—Fifteen herds, comprising 1,100 animals, supplying milk to Cairns, Atherton, Innisfail, and Mackay, were tested in terms of the tubercle-free herd scheme. Eight positive reactors, or less than 2 per cent., were detected in the herds tested for the first time; while in herds submitted to a retest, two positive reactions were recorded from 451 animals. Information collected from post-mortem examinations of beef cattle at slaughtering centres also indicates that, as a general rule, the incidence of tuberculosis is comparatively low in North Queensland. It has been ascertained from slaughtering returns, however, that the incidence of this disease in certain isolated herds may be unduly heavy.

Buffalo Fly Infestation.—A survey of the incidence of buffalo fly in North-western Queensland was made during the months of April and May, 1937, when it was ascertained that this parasite was more widespread than during the previous year. Infestation varied from heavy in the vicinity of the coast and the Northern Territory border, to light to the south and east of Burketown.

Suitable control measures were adopted to prevent the spread of the parasite by travelling cattle, and by the end of June the area of infestation had receded considerably.

Contagious Mammitis.—Investigations indicated that this disease is widespread in all centres where dairying is practised in North Queensland. Improved hygienic conditions and vaccination are being recommended as control measures.

Contagious Abortion.—This disease has been diagnosed on the Atherton Tableland, and its effects are being felt most severely in the more recently settled dairy country.

Mineral Deficiency Diseases.—Diseases due to mineral deficiency have been recorded from three centres in the northern area:—

1. An area to the south-west of Charters Towers, where the symptoms in cattle are suggestive of aphosphorosis, and the disease is locally referred to as "peg leg." Both young stock and breeding animals are affected.
2. Coastal country in the vicinity of Townsville. In this area trouble has been experienced among dairy cows, and the condition has been remedied by giving licks containing calcium and phosphorus.
3. A small area in the Cairns district, where the principal symptom is a pronounced wasting followed by death. The disease in this area closely resembled "bush sickness" in New Zealand, and a supplement containing cobalt was made available. This supplement appears to be giving good results, but it is as yet too early to ascertain its real value.

DISEASES OF SHEEP.

Serious mortality in rams occurred in the Julia Creek district towards the end of 1936. These rams had arrived from New South Wales some months previously, and remained in normal health until a growth of green pastures appeared, following the first rains of the 1936-37 wet season. The cause of the trouble was probably dietetic. Deaths in seven other mobs of rams, either on trucks or shortly after being untrucked, were also reported. These rams had all arrived recently from New South Wales, and a total of 133 deaths occurred among 2,275.

Botanical surveys of the yards at different trucking centres were made, and two plants (*Datura Leichhardtii* and *Andrachne decaisnei*), which are suspected of causing the trouble, were found.

Fleece Lifting in Sheep.—An unusual disease in sheep, in which a prominent symptom is a break in the wool with partial or complete loss of the fleece, was reported from the Hughenden district. The occurrence of this disease was confined to a certain belt of country, and it became so severe that it was necessary to remove all sheep from the area.

A botanical survey of the area was made, but, although several suspected poison plants were obtained, they were not present in sufficient quantities to carry out feeding tests. A quantity of Flinders grass (*Iseilema vaginiflorum*) parasitised with smut was obtained from the paddock in which the disease is known to occur, but a feeding experiment with this plant failed to reveal harmful results.

Cutaneous Muiasis of Sheep.—Sheep blowfly trouble became severe in portions of the North Queensland sheep-raising areas towards the end of the 1936-37 season, and it caused considerable economic loss. In some cases it was found necessary to shear the sheep two months before the regular shearing time.

DISEASES OF HORSES.

Deaths in horses were reported in the Cloncurry district, and an investigation indicated that the disease was similar to that occurring in certain parts of the Northern Territory and commonly referred to as "walkabout disease." Apparently this disease occurs annually on certain properties in the north-western corner of the State, and the plant known as Whitewood (*Atalaya hemiglauca*) is suspected as the cause.

An outbreak of gastro-enteritis was reported in horses in the Ingham district. Ten horses out of a team of eleven were affected, and two died. This disease is very similar to a sickness in horses reported from South-western Queensland during the autumn of 1936.

Swamp Cancer.—This disease is very prevalent along the coastal region, and causes the disablement of a considerable number of horses each year.

A disease in which staggers is a prominent symptom was reported from the Atherton Tableland. This disease is usually associated with feeding in paddocks containing corn stubble and corn cobs, which had been discarded owing to being affected with disease. The fungus *Diplodia zea* is considered to be largely responsible for the disease in maize, and it is also suspected as being the cause of staggers in horses.

DISEASES OF PIGS.

The principal pig-raising centre in North Queensland is on the Atherton Tableland, where a bacon factory is in operation. The most outstanding disease conditions reported by field officers were hæmorrhagic septicæmia, parasitic pneumonia, posterior paralysis, sterility, and losses due to improper feeding. Condemnations by slaughtering inspectors were principally for tuberculosis, pneumonia, and *Stephanurus dentatus* infestation. The latter condition is found to be very common among pigs in North Queensland, and the degree of infestation varies from light to heavy, accompanied by definite emaciation. In many cases 100 per cent. of the pigs showed some evidence of infestation.

DISEASES OF DOGS.

The diseases of dogs encountered most frequently were filariasis and distemper. More than 75 per cent. of a considerable number of dogs examined at Townsville showed microfilaria in smears.

GENERAL.

Coastal Fattening Scheme.—During the 1936-37 season observations were carried out on two groups of cattle brought in from North-western Queensland for fattening on the coast. A portion of one of the mobs has already been marketed, and the remaining cattle are being kept under observation for a further period. This work is being extended, and arrangements have been made for further observations on four different properties, where the cattle will be grazed on improved introduced grasses during the 1937-38 season.

Peg Leg Trial.—An investigation, in co-operation with the Council for Scientific and Industrial Research, at Helenslee, in the Charters Towers district, to gain information on the value and the most suitable methods of supplying mineral supplements to cattle in that area, is in progress.

C. R. MULHEARN, Acting Director.

BACON CURING INVESTIGATIONS.

Investigation at the Animal Health Station, Yeerongpilly, by Mr. F. Berry Smith, B.Sc., F.I.C., of the organisation of United Provisions Ltd. (Messrs. J. C. Hutton Pty. Ltd. and Foggitt, Jones Pty. Ltd.), relating to spoilage in bacon, was completed in the course of the year.

The investigation concerned the bacterial cause of a form of spoilage in bacon manifested in taint or malodour in the ribs, at times productive of considerable economic loss in the industry.

The casual organism was a halophilic vibrio described as a new species, *Vibrio costicolus.* The conditions of growth of this organism under which it produces taint were minutely defined, and, based on laboratory and curing studies, means of eradication and control formulated.

The investigation, an account of which will be published in the Proceedings of the Royal Society of Queensland, has been important not only in its immediate relation to a form of bacon spoilage, but also in its bearing on certain aspects of curing technique. Particularly is a new light thrown on possible "preservative" action of nitrate in cured meats both scientifically and technically noteworthy. Further investigations with industrial bearing dealing with halophilics, salt tolerant, and salt borne organisms are either in progress or in project at this Station.

REPORT OF THE REGISTRAR OF PRIMARY PRODUCERS' CO-OPERATIVE ASSOCIATIONS.

"The Primary Producers' Co-operative Associations Acts, 1923 *to* 1334."

Sir,—In accordance with Rule 53 of Part II. of the Schedule to the abovenamed Acts, I have the honour to submit, for transmission to the Governor in Council, my report for the year ended 30th June, 1937.

Since my last report, three additional associations and one federation have been registered, making a total of 206 associations and 2 federations registered under the Acts.

The registrations for the year under review were:—

- The North Queensland Co-operative Dairy Produce Marketing Federation Limited.
- Coochin Creek Fruitgrowers' Co-operative Association Limited.
- The Burnett and South Burnett Primary Producers' Co-operative Association Limited.
- The Wilson Valley Co-operative Dip Association Limited.

The associations and federations registered under the Acts to 30th June, 1937, are listed below:—

Bacon Associations.—Having a capital divided into shares with limited liability	4
Barley Association.—Having a capital divided into shares with limited liability	1
Canning, Jam, and Preserving Association.—Having a capital divided into shares with limited liability. (Since cancelled)	1
Carrying Association.—Having a capital divided into shares with limited liability	1
Chicken Hatchery Association.—Having a capital divided into shares with limited liability	1
Cold Storage Federation.—Having a capital divided into shares with limited liability	1
Cotton Association.—Having a capital divided into shares with limited liability	1
Dairy, Butter, and Cheese Associations.—	
Having a capital divided into shares with limited liability	57
Without share capital, with liability limited to the assets of the Association	5
Dairy Produce Marketing Federation.—Having a capital divided into shares with limited liability	1
Dip Associations.—Having a capital divided into shares with limited liability	32
Egg Producers' Association.—Without share capital with liability limited to the assets of the Association	1
Farmers' Association.—With capital divided into shares with limited liability	1
Farmers' Association.—Without share capital with liability limited to the assets of the Association	1
Farmers' Distributing Association.—Having a capital divided into shares with limited liability	1
Fat Pig Selling Association.—Without share capital with liability limited to the assets of the Association	1
Fruitgrowers' Associations.—	
Having a capital divided into shares with limited liability	8
Without share capital with liability limited to the assets of the Association	56
Fur Farming Association.—Having a capital divided into shares with limited liability	1
Meat and Bacon Association.—Having a capital divided into shares with limited liability	1
Milling Associations.—Having a capital divided into shares with limited liability	2
Packing Associations.—Having a capital divided into shares with limited liability	3
Pea Marketing Association.—Without share capital, with liability limited to the assets of the Association	1
Peanut Growers' Associations.—Having a capital divided into shares with limited liability	5
Publication Association.—Having a capital divided into shares with limited liability	1
Stock and Produce Associations.—Having a capital divided into shares with limited liability	3
Stores Association.—Having a capital divided into shares with limited liability	1
Sugar Associations.—	
Having a capital divided into shares with limited liability	1
Without share capital with liability limited to the assets of the Association	8
Tobacco Growers' Associations.—	
Having a capital divided into shares with limited liability	2
Without share capital with liability limited to the assets of the Association	3
Associations without share capital with unlimited liability	Nil
	208

Since the Acts have been in operation, four associations have amalgamated and thirteen have wound up voluntarily, leaving a total of 189 associations and 2 federations on the register.

During the year, several associations have amended their rules to meet changing circumstances.

The number of licensed auditors has reached a total of 200, being an increase of 9.

Two exemptions from the provisions of the Acts have been granted, the total number of exemptions now being 28.

A. J. EVERIST,
Registrar of Primary Producers'
Co-operative Associations.

REPORT OF THE DIRECTOR OF MARKETING FOR THE YEAR ENDED 30TH JUNE, 1937.

In accordance with the provisions of "*The Primary Producers' Organisation and Marketing Acts*, 1926 *to* 1932,' I have the honour to submit herewith a report of the operations of the pools that have been constituted in relation to the various commodities under the legislative measures which have been enacted to provide for the organised marketing of primary products in Queensland.

ARROWROOT BOARD.

Personnel of the Board to 14th April, 1940:—Messrs. R. Stewart (Chairman), C. Brumm, A. Rose, G. R. Walker, L. R. Oxenford, and E. Graham (Director of Marketing).

My last annual report stated that a vacancy had occurred on the Board through the demise of one of its members, but that it had been decided not to fill such vacancy until the Board election in April, 1937. On calling for nominations in January last for the election of five growers' representatives for three years as from the 15th April, the only names submitted were those of the four retiring members and Mr. Oxenford, who were returned unopposed, Mr. Stewart again being appointed chairman.

The period under review has been one in which sound administrative methods have again been the predominating feature of the Board's activities, as may be evidenced by the fact that despite competition by some millers operating outside the Pool, sales have been maintained to such an extent that it is questionable if the stock in hand will be sufficient to meet the demand until the new crop comes in. Improved market values have been another feature which will react in favour of producers, and on present indications the market value should improve further in the near future.

The prospects for the incoming crop, unfortunately, are not bright, owing to drought conditions over the greater portion of the year just concluded. It is estimated that the volume of the 1937 crop will be only two-thirds of the previous year's production, thus providing a further reason for the contention that the market will remain buoyant, in which event the producers will be enabled to obtain a financial return more in keeping with the just reward due for their labours, and thereby receive some compensation for the depressed prices over recent years and the adverse seasonal conditions experienced during the last twelve months.

The three years' agreement between the millers and the Board was discharged on the completion of the 1936 season's deliveries of arrowroot, but at a conference which took place on the 4th instant the millers expressed their willingness to enter into an agreement for a further three years.

At a Board meeting in April last Messrs. Gollin and Company, Pty., Ltd., were reappointed as the Board's selling agents in respect to the 1937, 1938, and 1939 season's crops. Mr. W. Stephensen was also reappointed at the same meeting as secretary of the Board.

ATHERTON MAIZE BOARD.

Personnel of the Board to 31st March, 1938:—Messrs. P. G. Martin (Chairman), L. R. Crouch, J. Gargan, L. R. Tostevin, T. D. McGeehan, and E. Graham (Director of Marketing).

Sixteen nominations were received for election as growers' representatives to the Board for the twelve months' term commencing 1st April, 1937, necessitating an election, which resulted in the return of all of the retiring Board members with the exception of Mr. R. W. Dawson, who was displaced by Mr. McGeehan. Mr. Martin was appointed Chairman.

1936-37 CROP.

OPERATIONS OF STOCKS.

	Tons.	Tons.
Maize Delivered—		
Gross delivered by growers ..	19,337	
Returns to growers	74	
	19,263	
Less moisture	371	
	18,892	
Plus carry-over, 1935-36 pool	563	
Net total		19,455
Maize despatches—		
Total sales, including stocks, 1935-36	19,599	
Less weight of bags sold as maize	280	
	19,319	
Less poultry food ingredients ..	196	
	19,123	
Plus offal sales	220	19,343
Net under-run		112

The under-run represents .58 of the total delivery, as compared with .59 for the previous year.

Marketing.—Sales ex the 1936-37 crop, together with a carry-over of 563 tons from the previous season, realised £168,264 3s. 9d. f.o.r. Atherton, comprising whole and crushed maize, poultry mashes, and offal.

Advances to Growers.—Growers received the following advance payments during the year for maize containing 3 per cent. dead grain:—

	Per ton. £ *s.* *d.*
1st advance	4 0 0
2nd advance	0 10 0
3rd advance	1 0 0
4th advance	0 10 0
5th advance	0 15 0
Total	£6 15 0

A premium of 1s. per ton per cent. was paid for maize containing less than 3 per cent. dead grain, while deliveries with a higher dead grain content were subject to a dockage of 2s. per ton per cent.

A final advance of 15s. 3d. per ton is to be paid shortly, which will make a total payment to growers of £7 10s. 3d. per ton on maize containing 3 per cent. dead grain.

Poultry Foods.—The popularity of the Board's poultry mashes is demonstrated by the fact that during the twelve months just ended sales amounted to 392 tons, compared with 106 tons for the previous year, and that it was necessary to instal a mixing machine to cope with the increased demand.

Standing Crop Advances.—Harvesting advances were again made available to growers to the extent of £5,000, but the full amount was not availed of.

The throwing open for agricultural development of new areas in North Queensland which were outside the Board's boundaries at that time has been a matter which has exercised the attention of the Board, and in order that the Board's services could be made available to prospective maize-growers in those localities, an Order in Council was issued in January last, on the Board's recommendation, extending the area for which that organisation was constituted, to include all lands within a 50 miles radius of the existing boundaries.

A change in management took place during the year, when Mr. W. H. Scott resigned in August last. The then Chairman, Mr. J. Gargan, acted in that capacity until the 8th October, when Mr. J. E. Clifford was appointed secretary and accountant from that date.

1937-38 Crop.—On the 24th May last the deliveries of early maize ex the 1937-38 crop commenced and continued at the Atherton silos throughout June. The quality of the new maize is exceedingly fine, due to the dry weather experienced, the estimated yield for the 1937-38 crop being in excess of 1,000,000 bushels.

It is anticipated that the period of intake will occupy seventeen or eighteen weeks, and that at the end of that time the Board will have disposed of sufficient maize to the trade so that adequate storage accommodation will be available for the balance of stocks.

BARLEY BOARD.

Personnel of the Board to 23rd April, 1938:—Messrs. E. Fitzgerald (Chairman), H. Kessler, and E. Graham (Director of Marketing).

The Board members' term of office expired on the 23rd April, 1937, and nominations were called for the election of growers' representatives but as only those of Messrs. Fitzgerald and Kessler were received they were returned unopposed for a further term, the former being appointed Chairman.

1934-35 Season.—Transactions in respect of this season have all been completed and the pool has been finalised. The result revealed a surplus of £126 14s. 9d., but as it was not practicable to distribute this amount it has been transferred to surplus appropriation account.

1935-36 Season.—Owing to the balance of malt stocks on hand not being taken delivery of at 30th June, 1937, the 1935-36 Pool has not yet been finalised, but the Board anticipates being able to do so within the next two or three months, when it is expected that a final advance to growers will be available.

During the year under review a third advance was paid to growers at the rate of 6d. per bushel on all grades, the total payments up to the 30th June ranging from 2s. 6d. to 2s. 9d. per bushel, less dockages, according to quality, on Chevalier, and 2s. per bushel on both Cape and feed barley. As stated, in my last annual report, no claims were received for hail insurance compensation in respect of this particular season's crop.

1936-37 Season.—Seasonal conditions were most adverse to barley growing during the year under review. Numerous crops completely failed, and only 9,755 bushels were delivered to the Board, the whole of which was classified as feed. Consequently negotiations were not entered into with the breweries for the sale of barley or malt, and no malting operations were carried out. Growers have been paid a first advance of 2s. 6d. per bushel, and as there is a shortage of barley for both seed and feed purposes it is anticipated that the stocks on hand will be cleared in the near future, and the final advance payment made.

Only one claim was received for hail insurance compensation on which a first advance has been paid from the Hail Insurance Reserve Fund.

The Queensland Barley Growers' Co-operative Association Limited again did not function, as owing to the light yield and poor quality of the barley delivered no malt was manufactured.

Negotiations were continued with the State Wheat Board relative to the proposed purchase of "The Maltings," but on account of the very small crop the matter has been held in abeyance.

BROOM MILLET BOARD.

Personnel of the Board to 31st October, 1937:—Messrs. H. J. Scholl (Chairman), H. Zischke, and E. Graham (Director of Marketing).

On calling for nominations for the election of two growers' representatives to hold office on the Board for the twelve months commencing the 1st November last, the retiring members' names were submitted, together with a third nomination, which, falling short, however, of the required number of signatures could not be accepted. Messrs. Scholl and Zischke were accordingly returned unopposed, the former being again appointed chairman.

1935-36 Season.—Owing to the small crop during this season full control was not exercised. Growers were required, however, to deliver their broom millet to one of the two agents appointed by the Board, namely, the State Produce Agency Pty., Ltd., Brisbane, and Denham Bros. Ltd., Rockhampton. The total receivals were 65 tons 14 cwt. 1 qr. 12 lb., the realisations amounting to £3,263 1s. 9d., or an average of £49 13s. 4d. per ton. The maximum selling price was £90 a ton, while the minimum price realised was £25 per ton.

1936-37 Season.—Although there was a large area planted with broom millet the yield per acre has, on account of the dry weather, been very low; consequently the Board again decided not to exercise full control, growers being subject, however, to the same conditions in respect to the marketing of their crops as those operating in the previous year. The State Produce Agency Pty., Ltd., and Denham Bros. Ltd., Rockhampton, were reappointed agents for the season.

Up to the 30th June, 1937, 41 tons 0 cwt. 2 qr. 27 lb. had been disposed of, the realisations amounting to £2,195 2s. 7d., the average being equivalent to £53 10s. 6d. per ton. The maximum and minimum prices realised to date have been £80 and £30 per ton respectively. In addition to the above quantity the Board's agents have 20 tons of broom millet on hand, and from information received by the Board a considerable quantity should be delivered before the close of the season on the 31st October next. In the early stages of the current calendar year a section of the millet broom manufacturers in the South made application to the Commonwealth Government for permission to import a quantity of broom millet from the Argentine on the pretext that the Australian production would be insufficient to meet the trade's annual requirements. The Federal authorities thereupon lifted the embargo against the entry of this commodity into the Commonwealth to permit of the importation of 250 tons, following which a deputation of growers' representatives from Queensland, New South Wales, and Victoria waited upon the Acting Prime Minister and protested against this decision on the grounds that there would be ample supplies of broom millet available from the ensuing crop. On becoming fully appraised of the position the Commonwealth Government's permit was limited to 130 tons which, it is understood, had been paid for by irrevocable Letter of Credit. Subsequently, the growers and manufacturers in Queensland, New South Wales, and Victoria were invited by the Minister for Commerce to send representatives to a conference held in Sydney in April last to discuss matters concerning the industry, including a proposal for the formation of a Federal Broom Millet Advisory Committee, whose main function would be to endeavour to arrive at some satisfactory agreement for the stabilisation of the broom millet market. This suggestion was favourably received by the conference, and it is understood steps are being taken to establish the Committee, which will consist of two growers' and two manufacturers' representatives from each of the States concerned.

BUTTER BOARD.

Personnel of the Board to 31st December, 1938.—Messrs. J. Purcell (chairman), J. McRobert, T. F. Plunkett, A. G. Muller, R. M. Hill, W. J. Sloan, and E. Graham (Director of Marketing).

Production.—The quantity of butter manufactured in Queensland during the year 1936-37 amounted to 1,507,494 boxes, as indicated in Appendix 1, which also sets out the particulars of sales and consignments for the same period.

An examination of the table contained in Appendix 2, which incorporates the above figures for the year under review with those for the eleven preceding years, will provide sufficient indication of the severity of the drought conditions to which the dairying industry was subjected during the twelve months just ended. Consignments and sales to all sources, except the quantity consumed in Queensland, show a considerable decrease on 1935-36.

Consumption.—The quantity of butter consumed in Queensland in 1936-37 is in accordance with the following table:—

	Boxes.
Butter of Queensland manufacture as indicated in Appendix 1.	516,487
Butter specially imported from Southern States to meet temporary Queensland shortage ..	7,238
Border Trade Sales	12,000
	535.725

The total consumption under this heading exceeds that for 1935-36 by 20,215 boxes, which on a per capita basis represents an increase of ·74 pounds of butter per annum.

Commonwealth Equalisation Plan.—The Board has again co-operated to the fullest extent with the Commonwealth Dairy Produce Equalisation Committee Ltd., whose operations, it is estimated, have benefited the dairy farmers of Queensland and the other Eastern States of the Commonwealth by more than 12s. per cwt. Based on this figure and estimated values for April, May, and June exports, the benefits accruing to Queensland dairy farmers in respect to the quantity of butter sold during the year 1936-37 represent an amount approximating £445,250.

Returns to Factories.—The average net price returned to factories for the year under review was 1s. 1¾d. per lb., exceeding that for 1935-36 by approximately ¾d. per lb., as will be noted by Appendix 3, which shows the comparative values in this respect for the past eight years.

Local Marketing Control.—Reference was made in my last report to the unsatisfactory conditions prevailing on the local market, which were attributable to the fact that intensive competition for that market resulted in a number of uneconomic trading practices creeping in, thus reducing the local selling of butter by wholesale to unprofitable levels. It was stated in the report in question that to overcome this unsatisfactory position the Butter Board had evolved a scheme whereby all butter sold in "pat" form in the Brisbane metropolis would be sold by the Board. This plan came into operation in November last, a capital expenditure of £20,000 being involved in providing at Hamilton a most efficient and hygienic plant for the purpose.

The venture has proved most successful, as a result of which the local market has been stabilised and factories ensured the price fixed by the Board for butter sold in "pat" form.

The scheme generally has given results in keeping with forecasts, and definitely has been advantageous to the dairy farmers of this State. The return for the first eight months of operation of the scheme totals £29,042 7s. 9d., an amount which, but for the implementation of the plan, would have been diverted to other channels than the factories.

It is interesting to record that since the scheme commenced to operate sales have been maintained, and, furthermore, that for the eight months ended the 30th June, 1937, the number of boxes sold was 134,607 boxes, which compared with the 122,902 boxes sold in the corresponding period of the previous year, represents an increase in the metropolitan consumption of 11,705 boxes, or approximately 9½ per cent.

APPENDIX 1.

STATEMENT SHOWING (IN BOXES OF 56 LB.) TOTAL MANUFACTURE, SALES, AND CONSIGNMENTS OF QUEENSLAND BUTTER, JULY, 1936, TO JUNE, 1937.

Month.	Manufacture.	Sales.				Consigned and/or Sold to Great Britain.	Total Exports.
		Queensland.	Interstate.	East and Tinners.	Overseas S/Stores and other Countries.		
1936.							
July	88,029	46,361	15,421	2,547	156	18,456	21,159
August	106,431	43,243	9,758	2,063	239	51,805	54,107
September ..	108,354	43,575	9,518	1,648	2	50,212	51,862
October	99,578	49,232	2,579	1,936	92	53,767	55,795
November ..	81,127	40,703	1,798	1,400	202	32,064	33,666
December	93,202	38,485	1,071	2,689	189	37,941	40,819
1937.							
January	150,062	35,966	403	2,653	238	99,968	102,859
February	148,255	38,696	78	2,693	133	94,123	96,949
March	187,936	43,754	73	3,058	191	118,798	122,047
April	187,214	41,671	740	3,234	660	147,915	151,809
May	145,378	43,928	3,925	2,997	341	104,718	108,056
June	111,928	50,873	6,335	3,317	398	73,173	76,888
	1,507,494	516,487	51,699	30,235	2,841	882,940	916,016

APPENDIX 2.

COMPARISON OF MANUFACTURE, SALES, AND CONSIGNMENTS OF QUEENSLAND BUTTER FOR YEARS 1925-26 TO 1936-37.

Year.	Manufacture.	Consigned.				Consigned and/or Sold to Great Britain.	Total Exports.
		Queensland.	Interstate.	East and Tinners.	Overseas S/Stores and Other Countries.		
	Boxes.*	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.
1925–26	1,074,789	399,624	51,360	19,405	2,214	608,334	629,958
1926–27	875,552	389,698	69,411	19,807	6,684	392,611	419,102
1927–28	1,240,125	376,626	60,893	35,222	4,878	764,539	804,639
1928–29	1,320,871	400,414	110,795	32,838	4,414	765,897	803,149
1929–30	1,358,954	420,389	84,712	33,503	4,284	805,951	843,738
1930–31	1,658,689	393,643	36,983	30,887	3,285	1,200,691	1,234,863
1931–32	1,697,445	399,785	7,075	41,286	2,145	1,243,950	1,287,381
1932–33	1,785,523	427,920	7,333	53,544	3,212	1,295,035	1,351,791
1933–34	2,212,707	425,566	9,139	68,430	4,191	1,692,142	1,764,763
1934–35	2,325,402	463,567	47,794	78,727	4,572	1,743,040	1,826,339
1935–36	2,008,784	505,510	104,140	70,227	4,399	1,327,371	1,401,997
1936–37	1,507,494	516,487	51,699	30,235	2,841	882,940	916,016

* The capacity of a butter box is 56 lb.

APPENDIX 3.

COMPARISON OF NET PRICES RETURNED TO FACTORIES ON BASIS OF EQUALISATION FIGURES, YEARS 1929-30 TO 1936-37.

Month.	1929-1930. Quantity Sold (Boxes).	1929-1930. Total Net Value.	1929-1930. Net Value per Box.*	1929-1930. Net Value per lb. (Approximate).	1930-1931. Quantity Sold (Boxes).	1930-1931. Total Net Value.	1930-1931. Net Value per Box.	1930-1931. Net Value per lb. (Approximate).
		£ s. d.	£	s. d.		£ s. d.	£	s. d.
July	76,109	360,714 1 6	4·7394405	1 8⅓	89,469	361,589 18 3	4·0415106	1 5⅓
August	69,238	330,269 8 1	4·7700599	1 8½	97,190	362,818 16 1	3·7330878	1 4
September ..	68,340	321,658 10 4	4·7067386	1 8⅙	112,044	378,332 8 4	3·3766415	1 2½
October ..	82,639	376,275 16 5	4·5532475	1 7½	124,975	426,612 10 2	3·4135829	1 2⅔
November ..	104,739	453,053 12 0	4·3255484	1 6½	139,678	469,539 15 6	3·3615873	1 2⅜
December ..	112,514	474,732 18 7	4·2193232	1 6	152,655	533,044 9 10	3·4918247	1 3
January ..	153,659	583,766 17 5	3·7991063	1 4¼	130,707	463,628 13 10	3·5470839	1 3⅕
February ..	165,800	606,246 13 8	3·6564939	1 3⅔	161,191	562,841 10 1	3·4917676	1 3
March	172,885	642,978 8 8	3·7191106	1 4	215,864	755,030 15 9	3·4977152	1 3
April	155,664	597,438 0 6	3·8379975	1 4½	148,112	501,965 10 8	3·3890943	1 2½
May	96,794	390,604 15 0	4·0354232	1 5¼	163,794	546,296 9 0	3·3352654	1 2²⁄₇
June	90,458	371,038 12 1	4·1017777	1 5½	129,810	436,702 12 10	3·364168	1 2³⁄₇
	1,348,839	£5,508,777 14 3	4·0840885	1 5½	1,665,489	£5,798,403 10 4	3·4815022	1 3
		1931–1932.				1932–1933.		
July	106,852	365,276 13 3	3·4185291	1 2⅝	115,103	364,643 16 0	3·1679781	1 1⁴⁄₇
August	116,584	406,126 9 10	3·4835526	1 3	98,066	302,213 5 6	3·0817335	1 1¼
September ..	105,468	350,417 12 5	3·3225019	1 2¼	91,846	266,665 3 6	2·9033945	1 0⁷⁄₁₆
October ..	132,346	416,485 11 2	3·1469449	1 1½	111,271	299,637 16 0	2·6928651	0 11½
November ..	120,478	373,499 15 1	3·1001491	1 1²⁄₇	158,661	387,965 0 0	2·4452448	0 10½
December ..	189,338	573,669 7 7	3·0298693	1 1	149,088	343,180 2 10	2·301863	0 9⁶⁄₇
January ..	209,949	630,772 5 1	3·0044071	1 0⅞	156,857	346,020 2 6	2·2059592	0 9½
February ..	174,058	514,191 18 5	2·9541413	1 0⅝	237,577	481,251 0 0	2·0256633	0 8⅔
March	140,891	401,619 9 0	2·8505686	1 0¼	248,744	562,481 13 10	2·2612875	0 9⁵⁄₇
April	116,090	348,214 9 8	2·9995218	1 0⁶⁄₇	169,206	390,264 19 0	2·3064487	0 9⅞
May	158,787	483,052 15 3	3·042143	1 1	152,716	370,992 13 0	2·4292979	0 10²⁄₅
June	123,400	376,588 17 4	3·0517736	1 1	97,909	271,576 1 4	2·77376	0 11⅞
	1,694,241	£5,239,915 4 1	3·0927804	1 1¼	1,787,044	£4,386,891 13 6	2·4548314	0 10½
		1933–1934.				1934–1935.		
July	82,151	243,728 8 5	2·9668345	1 0⁵⁄₇	122,086	358,646 19 0	2·9376583	1 0⁴⁄₇
August	89,666	252,552 3 9	2·816588	1 0	114,423	331,217 10 2	2·894676	1 0³⁄₇
September ..	103,987	267,211 10 8	2·569663	0 11	140,888	373,434 4 10	2·6505753	0 11⅜
October ..	154,016	339,864 14 7	2·2066846	0 9³⁄₇	200,429	484,937 13 5	2·41949856	0 10⅜
November ..	214,133	421,993 0 3	1·9707052	0 8³⁄₇	211,616	537,835 10 5	2·54156361	0 10⅞
December ..	256,218	513,807 10 0	2·0053529	0 8⁴⁄₇	274,204	703,781 1 9	2·5666332	0 11
January ..	238,523	502,844 0 5	2·1081574	0 9	331,547	764,243 6 2	2·30508289	0 9⅞
February ..	215,022	448,691 19 0	2·0867258	0 9	275,915	662,799 14 0	2·40218801	0 10²⁄₇
March	261,770	572,046 19 5	2·1853038	0 9⅜	255,294	661,510 8 9	2·59117114	0 11⅛
April	204,270	432,788 1 6	2·118706	0 9	177,808	510,326 5 0	2·87009729	1 0²⁄₇
May	247,160	669,759 4 8	2·7098205	0 11⁴⁄₇	136,989	426,033 10 0	3·10998338	1 1⅓
June	132,552	364,783 16 1	2·7520053	0 11¾	96,501	318,569 17 8	3·3012081	1 2⅐
	2,199.468	£5,030,071 8 9	2·2869492	0 9⁹⁄₁₁	2,337,700	£6,133,336 1 2	2·6236626	0 11¼
		1935–1936.				1936–1937.		
July	95,244	319,259 18 6	3·35202139	1 2⅜	82,941	282,161 18 9	3·4019596	1 2⁴⁄₇
August	85,046	291,183 18 9	3·42384046	1 2⁵⁄₇	107 108	348,645 8 6	3·25508298	1 2
September ..	104,672	335,729 18 0	3·20744711	1 1¾	104,955	340,015 12 0	3·23963221	1 1⅞
October ..	162,154	464,725 8 11	2·8659512	1 0¼	107,606	336,545 12 6	3·12757309	1 1³⁄₇
November ..	196,358	559,422 7 3	2·84899202	1 0¼	76,167	226,300 2 9	2·97110477	1 0¾
December ..	183,322	518,476 12 9	2·82822926	1 0⅛	80,375	231,967 17 1	2·88606971	1 0⅜
January ..	244,954	658,816 9 7	2·68955188	0 11½	139,228	419,196 12 3	3·01086432	1 0⅞
February ..	267,215	750,106 18 6	2·80712885	1 0	135,723	425,779 14 0	3·13712268	1 1³⁄₇
March	224,094	695,001 4 7	3·10138263	1 1¼	165,874	535,556 16 6	3·22869676	1 1⅚
April	195,284	650,826 8 5	3·33271763	1 2²⁄₇	194,220	638,498 5 0	3·2875	1 2
May	134,008	454,764 13 9	3·3935637	1 2⁴⁄₇	155,909	521,320 14 4	3·34375	1 2⅜
June	119,296	404,399 19 4	3·38988717	1 2½	134,096	455,926 8 0	3·4	1 2⁴⁄₇
	2,011,647	£6,102,713 18 4	3·03369021	1 1	1,484,202	£4,761,915 1 8	3·20840094	1 1¾

* The capacity of a butter box is 56 lb.

NOTE.—As final London figures for April, May, and June, 1937, are not yet to hand, the prices in respect of these months are estimates only.

CANARY SEED BOARD.

Personnel of the Board to 31st May, 1938—Messrs. E. A. Thomas, G. D. O'Neill, and E. Graham (director of Marketing).

On calling for nominations for the election of the growers' representatives to the Board for the twelve months' term commencing 1st June, 1937, the only nomination received was from one of the retiring Board members, in the person of Mr. O'Neill, who was returned unopposed. The remaining vacancy was filled by the appointment of Mr. E. A. Thomas by the Minister, in accordance with powers conferred under the provisions of the Primary Producers' Organisation and Marketing Acts, to meet such a contingency.

This review of the activities of the Canary Seed Board for the past twelve months can only be described as portraying the effects of drought conditions and the anomalies created by section 92 of the Commonwealth Constitution. Although Canary Seed may only be classed as one of Queensland's minor crops, because of the fact that the Commonwealth requirements of this commodity are limited in quantity, it, nevertheless, provides a means whereby producers on the Darling Downs are enabled to supplement their incomes from other primary pursuits, particularly in a year when insufficient rains are responsible for a reduction in the acreage which would otherwise be devoted to wheat growing. As the Canary Seed planting season extends until late in September, it is customary for numerous wheat growers coming under this category to turn their attention to Canary Seed cultivation, in the hope that by so doing, they will at least recoup some portion of their losses through the curtailment of their wheat-growing activities. The abnormal weather conditions, however, which commenced in March, 1936, and continued throughout the period of growth of the 1936-37 Canary Seed crop, militated against any such compensating factor. In a normal year, the Queensland production of Canary Seed is in the vicinity of 2,000 tons, but during the period under review, it is estimated that the yield was considerably less. The Board's receivals ex the 1936-37 crop amounted to 51 tons 11 cwt. 0 qr. 21 lb. of uncleaned seed, which resulted in 38 tons 7 cwt. 1 qr. 26 lb. of cleaned seed. Herein lies the effect of the constitutional anomalies which have been accentuated by the Privy Council decision last year in the James' appeal, and the adverse vote sustained by the marketing proposals at the referenda in March of this year.

The whole of the Australian Canary Seed production is required to meet an increasing domestic consumption, the bulk of the Queensland crop being disposed of interstate, on which market growers may, without reference to the Board, lawfully sell their produce. That this ill-advised policy has been adopted by a number of producers is quite discernible on noting the smallness of the Board's 1936-37 intake.

It is noteworthy that, in practically every instance where the collective system of marketing has been applied to Queensland primary products, the outcome has been that the market for these commodities has become stabilised, and the industries concerned placed on a more secure footing through the efforts of the marketing organisation thus set up. Moreover, the improved financial returns and expanding demand have engendered a greater feeling of security in the producers who have demonstrated that confidence in their respective industries by increasing their production.

The Canary Seed Board provides a typical example of the advantages to be derived from the type of organisation referred to. The stabilised market was the sequel to the Board's being constituted, and it is due solely to that organisation's efforts that the Canary Seed industry received the benefit of a tariff protection which allowed growers to compete with imports from overseas sources of supply. A Customs duty of £16 16s. per ton was imposed on condition that the Board's selling price would not exceed £32 10s. per ton c.i.f. Australian ports. This stipulation was agreed to, but no restrictions were imposed on the Board's clients, who have been at liberty to demand the highest prices obtainable when reselling the commodity.

It should be noted at this stage, that the Australian market rates are governed by those ruling in the Argentine, and that some eighteen months ago overseas prices began to soar, resulting in a firmer market, which has prevailed since, Australian quotations for Argentine seed now being in the vicinity of £50 per ton. As the maximum payment which the Board could make to growers in view of this promise to the Commonwealth Government was £32 10s. per ton, less the Pool's administrative expenses, the Board was considerably disadvantaged when outside operators, untrammelled by any restrictions in the selling prices, approached growers direct and offered considerably higher prices than the Board could return to them; consequently the bulk of the 1936-37 season's crop was disposed of by growers outside the aegis of the Pool.

Following representations to the Commonwealth authorities by the Australian Canary Seed Growers' Federation, permission was granted in December last for the Board to increase its selling price from £32 10s. to £40 per ton, c.i.f. Australian ports. The buoyant market still prevailed, however, and merchants continued to make direct purchases from growers at higher rates than those obtainable from the Board. Direct selling by growers may prove remunerative while Argentine values are high, and the landed cost in Australia exceeds £40 per ton, but when prices recede below that level—particularly in a normal crop year—a reptition of the unsatisfactory conditions prevailing in the 1934-35 and the two preceding crop years may be looked for.

In those seasons, the Argentine market was so low that the Board was obliged to meet competition, and dispose of its intake at prices as low as £27 per ton. Under circumstances such as these, there would not be as great an incentive on the part of growers to sell outside the Pool. In directing its endeavours to the overcoming of the difficulties which have presented themselves in the collective marketing of Canary Seed, the Board anticipates that during the coming year it will be successful in consolidating its position.

CHEESE BOARD.

Personnel of the Board to 31st December, 1938:—Messrs. D. G. O'Shea (Chairman), R. C. Duncan, T. Dare, and E. Graham (Director of Marketing).

Production—The amount of cheese produced in Queensland in 1936-37 is contained in the following table, together with the production figures for the two previous years, which have been included for purposes of comparison:—

Month.	1934–35.	1935–36.	1936–37.
	Lb.	Lb.	Lb.
July ..	886,429	544,044	403,313
August ..	982,110	667,923	611,320
September	1,166,342	699,044	733,945
October ..	1,271,157	953,302	681,579
November	1,223,538	976,544	409,145
December	1,422,997	958,039	372,821
January ..	1,505,254	1,116,396	837,685
February	1,161,974	979,726	759,169
March ..	987,669	874,613	707,019
April ..	624,405	625,034	845,145
May ..	484,147	419,142	740,660
June ..	461,519	327,107	663,129
	12,177,541 or 5,436 tons	9,140,914 or 4,081 tons	7,764,930 or 3,466 tons

Expressed in varieties, the quantities manufactured in those years are in accordance with the following:—

Variety.	1934–35.	1935-36.	1936–37.
	Lb.	Lb.	Lb.
Cheddar	12,071,788	9,024,157	7,678,849
Gruyere	46,599	57,784	40,309
Roman and Edam	59,154	58,973	45,772
	12,177,541	9,140,914	7,764,930

It will be observed from the above statistics that the 1936-37 production was 1,375,984 lb. lower than that for 1935-36, while the decrease in comparison with the figures for 1934-35 amounted to 4,412,611 lb. This analysis truly indicates the effect of the adverse seasonal conditions to which the industry in Queensland was subjected during the year under review.

Although this decline has taken place in Queensland during the last two years, it is, on the other hand, interesting to record that the Australian production has increased from 36,202,592 lb. in 1934-35 to 36,574,130 lb. and 42,750,647 lb. for the years 1935-36 and 1936-37, respectively.

Reports indicate that the number of suppliers to Queensland cheese factories has increased during the last twelve months, as a result of which the Board feels confident that under favourable seasonal conditions the volume of the ensuing year's output should, at the least, approach normal proportions. In this event, and provided also that satisfactory market values are maintained, the industry in Queensland will receive a much-needed impetus.

Quality.—The quality over the last twelve months showed an improvement on the two previous years, the export grading figures for those years being as follows:—

Grade.	1934-35.		1935-36.		1936-37.	
	Crates.	%	Crates.	%	Crates.	%
Choicest	338	·65	366	1·41	29	·21
Firsts	12,927	24·79	7,615	29·24	5,477	39·37
Seconds	32,736	62·78	16,413	63·02	8,021	57·65
Thirds	5,379	10·32	1,465	5·62	349	2·51
Rejects	760	1·46	184	·71	37	·26
	52,140	100·00	26,043	100·00	13,913	100·00

These figures do not represent the quality standard of the total production, as most of the cheese sold locally is choice or first-grade.

The matter of increasing the local consumption of cheese is an objective which is still being pursued by the Board. One of the factors prevailing against any appreciable stimulation in the demand in this particular avenue of disposal is the great lack of uniformity in the age of cheese being offered to the consumer, particularly in the Brisbane area. Although the bulk of the local sales, as stated above, comprises choice or first-grade, a proportion is disposed of in a green condition. The Board has always contended that the local market should be supplied with cheese of the highest quality, and with this object in view has impressed on the manufacturers that the interests of the industry could best be served if all cheese for domestic consumption, with the exception, perhaps, of North Queensland supplies, were held for at least three or four weeks after manufacture before being sold even as mild cheese.

Another matter which the Board views with concern is the custom of a section of retailers who offer "mild" cheese on the local market as "semi-matured" and "matured," and thereby obtain enhanced prices at the expense of the consumer. Consideration is being given by the Board to proposals for the elimination of this practice.

Disposals and Values.—The disposals of Queensland manufactured cheese for the years 1935-36 and 1936-37 were as follows:—

Market.	1935-36.		1936-37.	
	Lb.	Per cent.	Lb.	Per cent.
Local and Interstate	3,808,726	43·0	3,450,637	49·0
Process	1,451,580	16·4	1,751,932	24·9
Overseas	3,599,297	40·6	1,837,845	26·1
Totals	8,859,603	100·0	7,040,414	100·0

It is desired to point out, in this connection, that the 1935-36 process figures represent only ten months' transactions, as prior to September, 1935, sales to processors were made at the local price, and were included in the local sales.

The average equalisation price on all sales was 7·8115322d. per lb. for 1935-36, while that for the year just completed was 8·22377993d. per lb. On these average prices the total value of the disposals of Queensland cheese during the two years in question amounted to £288,362 16s. 2d. and £241,245 1s. 4d., respectively. (As the final values for June, 1937, have not yet been determined, it should be noted that interim figures have been used for that month for the purpose of arriving at the equalisation values for 1936-37.)

The average equalisation values per lb. on the various markets for the two years under discussion, based on Commonwealth figures, are shown hereunder:—

Market.	1935-36	1936-37.
	d.	d.
Local and Interstate	9·42	9·41
Process	8·19	8·43
Overseas	5·49	6·48

Two factors were responsible for the improved values in 1936-37, the first being attributable to the maintenance of a stabilised market in Australia, as has been the case each year since the implementation of the Commonwealth Equalisation Plan.

During the period under review there was no fluctuation in the local and process prices until two days prior to the date of this report, so it might be said that during the whole year the local market ruled at 9½d. per lb. for mediums, whilst 8½d. per lb. was obtained in the case of sales to the processors.

The second factor was the improvement in overseas values during 1936-37, Queensland shipments to the United Kingdom in that period realising for equalisation purposes, the following spot prices, as against the previous year's export realisations, which ranged from 42s. 9d. to 57s. 6d. per cwt.

Vessel.	Loading Date.	Realisation Per Cwt.	
		s.	d.
Otaio	23–9–36	69	3
Opawa	17 and 29–10–36	57	0
Middlesex	9–11–36	54	6
Peshawur	28–11–36	50	3
Orari	11–12–36	50	2
Kent	12 and 31–1–37	67	5
Turakina	25–2–37	68	6
Essex	18–3–37	69	9
Devon	16–4–37	70	2
Sussex	8–5–37	71	6
Orari	4 and 25–6–37	71	5

Greater benefits would have accrued to producers as a result of enhanced overseas values had Queensland cheese production in 1936-37 assumed normal proportions, but due, however, to the drought conditions, the exports of cheese from Queensland to the United Kingdom during the period under review, amounted to 10,462 crates only, the lowest export figure since the inception of the board in 1923. This shrinkage in exports to Great Britain is considerable, when it is realised that those for 1934-35 and 1935-36 were 50,312 and 22,337 crates respectively. These figures provide a further indication of the decline in cheese production in Queensland over recent years, but as stated in my last Annual Report, this can be attributed solely to seasonal difficulties, as it is difficult to conceive that in view of the enhanced returns, suppliers would discontinue their support of cheese factories.

Commonwealth Equalisation Plan.—As stated above, the satisfactory position in regard to values is due chiefly to the successful functioning of the Commonwealth Equalisation Plan. As a result, however, of the Privy Council decision in the James case, the Commonwealth Dairy Produce Act, which, in effect, prevented interstate dumping by manufacturers who had not exported their quota overseas, automatically became invalid, whereupon the Commonwealth Government sought an amendment of the Constitution in order that the legislation might be validly re-enacted, but at the referendum on the question in March last a majority of the electors of the Commonwealth rejected the proposals. The position now is that the Equalisation Plan is functioning on a voluntary basis.

It is a tribute to those concerned that the plan has continued to function so successfully, despite the negative vote sustained in the referendum. By supporting the plan voluntarily factory directors and proprietors have shown that they appreciate the fact that the welfare of the producers depends in the final analysis upon the success of the industry as a whole, and that this can only be achieved by the maximum of co-operation through the application of the orderly system of marketing.

Board Expenses.—The Board's administration expenditure was 1·52d. per 100 lb. of cheese manufactured (green weight), for the year under review, as against 1·83d. for the previous year. An additional 1·7d. per 100 lb. of cheese was involved in payment of the Council of Agriculture and Dairy Cattle Improvement Act precepts.

General.—During the past year the Board reviewed its existing list of authorised agents and decided to differentiate between "authorised agents" and "wholesale dealers" by granting a separate form of license in each case. The proposed alteration was first referred to all licensees, and it was pointed out to them that only holders of a Farm Produce Agent's license would be appointed "authorised agents" by the Board, the remainder being eligible only for appointment as wholesale dealers. The alteration was duly made and became operative on the 1st November, 1936.

COTTON BOARD

Personnel of the Board to 31st December, 1937.—Messrs. H. R. Brake (chairman), E. Schuenemann, G. F. McRae, E. J. Basson, H. F. Lindenmayer, F. A. Kajewski, and E. Graham (Director of Marketing).

1935-36 *Season.*—Crop returns from 3,364 growers indicated that 62,500 acres were planted during the 1935-36 season, but it is estimated that the acreage actually harvested was about 59,000 acres, the difference of 3,500 acres representing areas abandoned through drought and other causes.

The total yield amounted to 19,198,600 lb. of seed cotton, which produced 6,653,973 lb. (13,504 bales) of raw cotton lint. The quantities of seed cotton received at the Glenmore and Whinstanes ginneries were 13,684,661 lb. and 5,513,939 lb. respectively. On delivery of seed cotton at the ginnery, the Board paid a first advance to growers, and in addition to the amount of Commonwealth bounty due, £4 per ton for the seed content of the seed cotton received. The advances paid to date are as follows:—

	Average for all classifications of Hand Picked and Snapped Cotton Per lb. Raw Cotton.
	d.
First Advance Payment ..	7·646
Second Advance Payment ..	1·25
Third Advance Payment ..	·30
Fourth Advance Payment ..	1·441
Fifth Advance Payment ..	·412
	11·049

A further advance will be paid at the finalisation of the 1935-36 season's transactions.

In the year ended 30th November, 1936, 7,891 short tons of cotton seed were treated at the Whinstanes oil mill. Because of the small carryover from the 1934-35 season of cotton seed for oil milling purposes, and the reduced yield from the 1935-36 crop, the stocks of Queensland cotton seed were not sufficient to enable the mill to continue operating until March, 1937, when the new season's seed became available. The Board was obliged, therefore, to import 2,000 tons of East African seed. The prevailing dry weather created such a demand for cotton seed meal from the drought-stricken areas that exports to the United Kingdom were curtailed so that local orders could be fulfilled. The result was that the domestic consumption of cotton seed meal manufactured by the Board reached the highest level since the oil mill commenced to operate at Whinstanes in 1924.

1936-37 *Season.*—Until recent years it was necessary to export overseas a proportion of the cotton produced in Queensland, but within the last three years the Australian textile industries have expanded to such an extent that the consumption now exceeds the production. The annual requirements of the cotton spinners and woollen manufacturers in Australia approximate 23,000 bales, a noteworthy factor being that the demand is increasing. As a consequence of this the Cotton Board has been untiring in its efforts to induce producers to meet this position by increasing their production. These endeavours met with a ready response from growers, but on account of drought conditions only 54,821 acres were planted in the 1936-37 season.

During the normal planting season, apart from the South Burnett district, practically no rain fell, but early in February last there were excellent falls over the whole of the cotton belt, as a result of which the prospects for a good yield improved considerably. In the latter portion of that month there was a fairly long dry spell, which was broken by a good rainfall about the middle of March throughout the cotton districts, but, unfortunately for the growers, however, these rains were followed by a heavy infestation by Jassids and the Corn Ear Worm, thus further depleting the crop prospects. On present indications it is estimated that the 1936-37 yield will be under 9,000 bales.

The following particulars set out the position as at the 30th instant:—

	Lb.
Seed cotton receivals	9,370,999
Raw cotton produced	3,257,047
Bales of raw cotton ginned ..	6,703

EGG BOARD.

Personnel of the Board to 31st December, 1937.—Messrs. R. B. Corbett (Chairman), M. H. Campbell, J. de Vries, T. Hallick, W. T. Hughes, and E. Graham (Director of Marketing).

The annual election in December, 1936, resulted in the retiring members of the Board being returned for a further twelve months' term as from the 1st January last. Mr. Corbett was again appointed Chairman.

Supplies.—The quantity of eggs handled by the Board and its authorised agents during the twelve months ended 30th June, 1937, decreased by over 8 per cent. when compared with supplies for the previous year.

Sales.—Sales of eggs in shell and egg pulp within the State for the same period show a further increase by comparison with the previous year, whilst the despatches to Southern markets declined greatly.

Export.—Packing for overseas markets began on 15th July and terminated on 18th December, 1936. Shipments were made to London, Liverpool, Manchester, and Glasgow. In all 1,888,650 dozen were exported to the United Kingdom by comparison with 2,120,700 dozen for the previous year, a decrease of almost 11 per cent. In that year total egg exports from the Commonwealth declined by 4·1 per cent.

Reports received throughout the season concerning the quality of the eggs in the Board's export packs were very favourable and complimentary remarks were expressed regarding the packing and the cases, which were said to be very neat and attractive. The use of the new type egg trays—Keyes filler flats—almost entirely eliminated breakages. This packing admirably lends itself to window displays and is greatly favoured by retailers.

Despite these very gratifying reports concerning quality and "get up" the season resulted in a loss of between £10,000 and £11,000 to the industry from circumstances over which the Board had no control. The favourable London realisations for the early shipments of last export season imbued producer organisations with an optimism that prices slightly better, or at least equal to those of the previous season, would be obtained, and this found expression in the maintenance, throughout the season, of egg prices at a slightly higher level than usual, to assist growers to combat the extraordinarily high cost of staple foods. This policy, based on the anticipations of trade representatives in the United Kingdom competent to express an opinion, could not be regarded as either rash or imprudent. When the egg market in the United Kingdom collapsed and prices receded to as low as 6s. 3d. per long hundred for the 15 lb. or standard pack, it became apparent that producer export organisations, in contriving to assist growers in this way, had added considerably to their liabilities. The price for Australian eggs began to decline with the development of the Constitutional crisis in Great Britain early in December, and circumstances combined to precipitate a rapid fall, developing into a catastrophic slump, which left "on consignment" exporters heavy liabilities by way of reclamations.

The Board, in conjunction with other egg producer organisations throughout the Commonwealth, made representations to the Commonwealth Government for assistance to meet the losses referred to, but without success.

During the year under review prices of the staple foods used in egg production have been very high, and the increasing cost of production without a corresponding increase of egg prices created great difficulties for those engaged in the industry.

Adverting to the unfortunate complaints regarding the quality of eggs shipped from certain parts of Australia, the Board in accordance with arrangements made with the Egg Producers' Council, which has established a committee to investigate the question in conjunction with the Council for Scientific and Industrial Research, shipped to the United Kingdom, by six different ships, six lots of eggs from individual farms for experimental purposes. These eggs on arrival in London were examined by officers of the C.S.I.R. and Commonwealth grading officers. Although a great deal of useful data has been collected with respect to last year's experimental lots the continuation of the survey for at least another season is necessary before any definite conclusions can be deduced, and arrangements in this connection are well in hand.

The export regulations have been amended to provide for the branding of all eggs exported with the registered number of the packing floor as well as the word "Australia." This is designed to enable the tracing back of complaints to the floor concerned. A guarantee bond also must be furnished by each exporter to the Department of Commerce for the faithful performance of the export regulations. These measures are intended to act as deterrents to breaches of the regulations, and to impress exporters with the necessity for the greatest care in the candling and grading of eggs for export, so that quality may be maintained and the high reputation of Australian eggs in general protected.

The Board's refrigeration equipment is now in commission, and the pre-chilling of eggs for export and any other operations which necessitate cold storage are done on the premises immediately under the control of the staff.

A summary of the major marketing operations of the Board is set out hereunder:—

JULY, 1936–JUNE, 1937.

—	Dozen.	By comparison with 1935–36. Increase.	By comparison with 1935–36. Decrease.
		Per cent.	Per cent.
Quantity of eggs received at packing floors of the Board	3,582,035	..	5·45
Quantity of eggs received by Board's authorised agents	1,358,728	..	15·20
Surplus stocks transferred by agents to Board's floor	620,698	..	23·54
Eggs cold-stored	193,110	33·35	..
Eggs converted into pulp	207,214	91·75	..
Eggs exported overseas	1,888,650	..	10·94
Eggs sent to Southern markets	419,130	..	45·48

THE FRUIT INDUSTRY.

INTERSTATE TRANSPORT.

The number of packages of fruit and vegetables forwarded by Committee of Direction Fruit Train Specials and by steamer to the Southern markets for the period twelve months ended 30th June, 1937, was as follows:—

—	By C.O.D. Fruit Train Specials.	By Steamer.	Total.
	Packages.	Packages.	Packages.
To—			
Victoria	278,534	1,057	279,591
New South Wales	714,609	3,751	718,360
Total	993,143	4,808	997,951

QUEENSLAND BANANA AND PINEAPPLE TRANSACTIONS FOR TWELVE MONTHS ENDED 30TH JUNE, 1937.

Bananas.

	1½ bushel cases.	
Southern Consignments—		
By C.O.D. Fruit Trains to—		
Melbourne	121,511	
Sydney	55,585	
Other Southern Towns	7,454	
	184,550	
By New South Wales Fruit Trains *via* Murwillumbah (estimated)	18,000	
Total Interstate Consignments		202,550
Queensland Sales—		
Brisbane—		
Cases	111,683	
Bunches, 375,530 equivalent to	100,141	
	211,824	
Cases handled by two Brisbane merchants (approximately)	22,000	
	233,824	
Queensland country sales (estimated)	30,000	
		263,824
Total Queensland Production (approximately)		466,374

NOTE.—Of the total of 111,683 cases disposed of on the Brisbane market, the Committee of Direction handled 70,790, or 63·38 per cent. Of the total of 375,530 bunches marketed in the same channel, the Committee of Direction handled 58,996 or 15·71 per cent.

The average quantity per bunch of bananas was 6 10/12 dozen, the average price realised being 3·35d. per dozen, while that for cased bananas was 10s. 3·33d. per case.

Pineapples.

	1½ bushel cases.	
Southern Consignments—		
By C.O.D. Fruit Trains to—		
Melbourne	95,446	
Sydney	132,900	
Other Southern Towns	7,573	
Total Interstate Consignments		235,919
Queensland Sales (approximate)		158,646
Factory Consignments—		
Winter Pack, 1936	247,505	
Summer Pack, 1937	242,096	
		489,601
Total Queensland Production (approximately)		884,166

FACTORY ACTIVITIES FOR TWELVE MONTHS ENDED 30TH JUNE, 1937.

The following quantities of the various fruits have been handled for factory:—

STANTHORPE FRUITS.

Season—December to May—

	Direct from Growers. Tons.	Ex Market. Tons.	Tons.
Apples	174	5	
Plums	126	49	
Quinces	5	..	
Tomatoes	190	..	
Peaches	..	17	
Apricots	..	3	
	495	74	569

CITRUS FRUITS.

Season—April to October—

	Direct. Tons.	Ex Market. Tons.	Tons.
Citrons	13	..	
Sevilles	90	..	
Lisbon Lemons	176	10	
Bush Lemons	4	..	
Grape Fruit	17	..	
Sweet Oranges	87	12	
	387	22	= 409

FIGS.

Season—January to March 68

PAPAWS.

Season—July to January—

	Direct.	Ex Market.	
By weight	181	..	
Cases	88	..	
	269	208	= 477

PASSION FRUIT.

Season—
December to February;
May to September

Direct. Tons.	Ex Market. Tons.	
33	37	= 70

STRAWBERRIES.

Season—July to December 96

TOMATOES.

Metropolitan Crop—June to December—

	Direct	Ex Markets	
Direct	51	..	
Ex Markets	..	18	
			= 69

PINEAPPLES.

	Direct. Cases.	Ex Market. Cases.	
Winter Crop, 1936	247,505	31,138	
Summer Crop, 1937	242,096	16,180	
	489,601	47,318	
	= 536,919 cases		
A case contains 56 lb. of pineapples = 40 cases to the ton			= 13,423
Total Tonnage			15,181

DIRECTIONS AND LEVIES.

Directions.

The following fruits have been under the control of the Committee of Direction for the year ended 30th June, 1937, by direction:—

Citrus fruits;

Deciduous fruits;

Figs;

Passion fruit;

Papaws—

(*a*) For factory purposes;

(*b*) For the purpose of prohibiting the sale of green papaws on the Brisbane market, and to prohibit the sale of blemished papaws when the price of unblemished fell to 3s. per case;

Pineapples, for factory purposes;

Strawberries, for factory purposes;

Tomatoes—

(*a*) For factory purposes;

(*b*) To stabilise the Brisbane market for Stanthorpe grown tomatoes by prohibiting the sale of "B" grade and small "A" grade tomatoes from such district in the event of the price of "A" grade not realising a higher gross amount than 4s. 6d. per half-bushel case;

Plums—

To stabilise the market. This particular direction expired on 24th December, 1936, and was not renewed, owing to the light plum crop.

Levies.

The following levies have been in operation during the year ended 30th June, 1937:—

Banana levy—1d. for every £1 or part thereof of the net proceeds realised from sales in Queensland of bunch bananas, and ½d. per 1½-bushel case of bananas. (Note.—This levy was increased from 1d. on every £2 to 1d. on every £1 from 8th August, 1936.)

Citrus levy—1d. per bushel case or ½d. per half-bushel case; for expenditure in the interests of the citrus section.

Pineapple levy—½d. per case on pineapples marketed as fresh fruit, and 1d. per case on factory pineapples, to meet the administrative expenses of the Pineapple Section administration.

Stanthorpe levy—3s. 4d. per ton on all fruit and vegetables marketed from the Stanthorpe district; the fund so created is utilised for administrative purposes.

Hail Insurance levy—6s. 8d. per ton on fruit only grown in the northern portion of the Granite Belt, being the contribution of the growers concerned to a Hail Insurance Fund.

Papaw levy—1d. for every four cases or part thereof; used for the advertising of papaws.

REFUNDS MADE TO GROWERS UNDER VARIOUS SYSTEMS OF FINANCE DURING THE PERIOD TWELVE MONTHS ENDED 30TH JUNE, 1937.

Banana Revolving Fund.

Payments were made in December, 1936, to all growers of bananas who consigned bananas on the Committee of Direction Fruit Trains to the Southern States during the year 1931, the refund being at the rate of 1½d. per case. The amount returned in this payment was £3,845 15s. 3d.

The total amount returned to date per medium of this fund to the Southern consignors of bananas for the years 1924 to 1931, both inclusive, aggregates £29,288 17s. 3d.

The capital of this fund has been fixed at £20,000, and the rebate is made available to growers as soon as sufficient surplus has accrued over the fixed capital to meet the amount required in the payment of rebate for any one year. Owing to the decline in banana production, and the consequent decline in interstate consignments and revenue, it is likely that some considerable time will elapse before the next payment is made.

Pineapple Revolving Funds.

(*a*) *Southern Consignors.*—In September, 1936, an amount of £1,083 16s. 2d. was returned to pineapple growers, who forwarded consignments of pineapples to the Southern States by the Committee of Direction fruit train specials during the year 1933. The rebate was at the rate of 1d. per case.

The total amount rebated to date to Southern consignors of pineapples for the years 1924 to 1933, both inclusive, now amounts to £7,456 19s. 1d.

(*b*) *Cannery Revolving Fund.*—With the monthly payments for cannery pineapples of the 1936 winter crop and the 1937 summer crop, repayment of 6d. per case was made on deliveries of cannery pineapples for the preceding winter and summer packs. The amounts so returned to growers were—

	£	*s.*	*d.*
Winter crop, 1935	3,027	16	8
Summer crop, 1936	4,238	8	7
	£7,266	5	3

The moneys returned to growers from this fund from time to time, amount to £24,331 13s. 6d.

STANTHORPE FRUIT CO-OPERATIVE HAIL INSURANCE FUND.

This scheme, which operates in the northern end of the Granite Belt, was established by a ballot of the growers in that area in November, 1936. The fund at the end of the season had a capital of £3,451 3s. 1d., made up as follows:—

Contributions from Deciduous Capital Account	1,000	0	0
Contribution from Department of Agriculture	400	0	0
Grower contributions at the rate of 6s. 8d. per ton	2,051	3	1
	£3,451	3	1

Claims amounting to £896 7s. 10d. were paid at the rate of 3s. 4d. per bushel, the maximum rate of compensation payable. Administration expenses, &c., totalled £117 2s. 3d., leaving a balance of £2,437 13s. as the nucleus for next year's fund.

GENERAL.

Committee of Direction Sales Sections.

Rockhampton.—The Rockhampton selling activities include a retail establishment; a country order business, which has a very strong clientele in the central west; banana ripening rooms; and a cool storage chamber. A very satisfactory year has been completed, the turnover being in excess of the previous year.

Brisbane.—Progress on the Brisbane sales section has been most marked. The increasing number of suppliers to the floor necessitated the securing of additional space, three adjoining sections, now being occupied in the wholesale selling of fruit and vegetables.

Sydney.—The value of the growers' own selling organisation is best and most effectively demonstrated on the Sydney market. This section has continued to make more than satisfactory progress, with the result that in addition to the three selling floors and ripening rooms, it is now necessary to look for further selling space. The section specialising in pineapples, bananas, papaws, strawberries, and custard apples, is now recognised as the depôt for choice Queensland tropical fruit. It has maintained and improved upon its position in relation to its handling of the major proportion of the Queensland fruits consigned to the Sydney market. An excellent example of the value of this section may be quoted in respect to pineapples. Melbourne was hitherto considered a much more satisfactory market for pineapples than Sydney, but the position has since been reversed, as a consequence of which, consideration is being given to a request from pineapple growers for the Committee of Direction to open a selling floor in Melbourne.

BRISBANE MARKETS.

The unsuitability of the Brisbane markets and the inadequate facilities they provide have over a long period given rise to agitation on the part of growers for new markets. The report of a special committee appointed by the Minister for Agriculture in 1935 to investigate market facilities in Brisbane, which committee included representatives of the Departments of Agriculture and Health, the City Council, the growers and the agents, stressed the necessity for new markets, and the Committee of Direction in a number of deputations to the Lord Mayor has requested that the recommendations contained in the report, be acted upon.

Another matter in which the Committee of Direction made a strenuous effort to effect an improvement was that of market holidays. During the summer months there is a number of holidays, which fall on a Monday, and this results in a serious dislocation of trade with heavy losses to growers, particularly to the growers of delicate deciduous fruits, which are marketed during the hottest period of the year. With the unexpected holiday for King George VI.'s birthday falling on Monday, 14th December, the Committee of Direction recognising that the announcement was too short to permit of an alteration of train arrangements, was successful with the enthusiastic co-operation of the agents, in arranging for the markets to be kept open. The volume of business was such that it was found necessary by the agents to keep the markets open all day instead of half a-day as originally intended. The value of this to the trade, as well as to the growers, was so apparent, that the Committee of Direction was sanguine that it would be able to effect similar arrangements for the Foundation Day holiday, but even though the largest agents desired this, the remainder of the trade was not agreeable.

BEANS.

With the increase in the production of beans and the growing importance of this industry to Queensland, there has developed a strong organisation of bean growers. Consideration was given to requesting an extension of the

Fruit Marketing Organisation Acts to provide for the formation of a Vegetable Sectional Group Committee, but it was finally decided that the position could be adequately met, and at much less expense, by the formation of a Bean Advisory Committee of three to work in conjunction with the Committee of Direction. This committee is appointed at an annual conference of bean growers, the second of which was held in March last.

At such conference, which was largely attended and fully representative of all bean-growing districts, it was decided that an endeavour be made to enter into agreements with the Sydney and Melbourne trade, whereby the selling of beans would be confined to a panel of selected agents, such agents to agree, amongst other things, not to send any representative into the bean districts during the harvesting seasons. This agreement has been successfully negotiated with the Sydney trade, but with a somewhat lesser degree of success with the Melbourne trade.

ADVERTISING.

With comparatively light crops of all fruits as a result of droughts, and because of the improved economic conditions in Australia, there has not been any need to stimulate the demand for the various fruits, consequently, advertising efforts have been confined to the issue of the papaw poster, and the erection of a display at the Brisbane Royal National Show.

The papaw poster is considered quite the best of the many excellent posters issued by the Committee of Direction. Its educational and artistic appeal has played a big part in stimulating the demand for papaws among consumers in the Southern States.

SECTION 92—REFERENDUM CAMPAIGN.

With all other Commodity Boards, the Committee of Direction gave its financial and moral support to the campaign for the securing of a "yes" vote at the Referendum in March last. A donation was made to the campaign funds, and in addition, its Chairman, Mr. K. R. Hack, was made available for the addressing of meetings. Mr. Hack's expenses in this connection, were met by the Committee of Direction.

COUNTRY DISTRIBUTION SCHEME.

With the introduction of the cases of mixed fruit in April last a very big increase was shown in the appreciation of the Country Distribution Scheme by country residents. For the twelve months ended 30th June, 1937, a total of 9,247 half-bushel cases was railed, in comparison with 11,289 for the previous year. Of this year's railings, the cases of mixed fruit comprised 1,327 and mixed vegetables 1,974, over one-third of the total railings, thus demonstrating the appeal that this mixed case has, and the definite need it is fulfilling.

TRADING ACTIVITIES.

The growers' appreciation of the Committee of Direction's trading activities is conclusively proved by the purchases which each year have shown a very big increase on the previous year. This financial year is no exception, as purchases by growers excluding the large amount of trading in the Bowen district, total £37,101, an increase of £7,464 on last year's total. The aim of this branch of the Committee of Direction is the sale of growers' requisites at the lowest possible cost, and its operations have been responsible for a reduction in the price of growers' vital requirements, such as fertilizers, woodwool, nails, &c.

BOWEN TRADING.

The operation of two organisations in Bowen for both transport and trading has long been recognised by the Committee of Direction as not being in the best interests of the growers in that area. All moves towards an amalgamation have been made by the Committee of Direction. Prior to 1936, the Committee of Direction gave a freight concession of 10s. per ton to the Bowen Fruit Export Co-operative Association Ltd., for its Melbourne consignments in the hope that this would be conducive to more harmonious working. Two visits have been paid by the Manager of the Committee of Direction to Bowen to personally conduct negotiations for an amalgamation, and in March last proposals were submitted for amalgamation, which were most favourable to the Bowen Fruit Export Co-operative Association Ltd. Such overtures were not accepted by the latter, and the position remains the same.

MARKETING OF BANANAS.

Organised marketing, coupled with a greatly decreased Queensland production, has had the effect of considerably improving the Sydney market, with the result that it is now regarded as being superior to Melbourne, whereas until last year the reverse was the case. The operations in Sydney of the New South Wales Banana Board, which in the main comprise the regulation of supplies to that centre in order that the absorptive capacity of such market will not be exceeded, have stabilised this hitherto very unreliable market at a very satisfactory level. The application of the collective marketing system to bananas produced in that State resulted in attempts being made by some agents to undermine the Board's operations by purchasing considerable quantities from Queensland growers.

Whilst on the subject of direct buying, the activities of the Committee of Direction in this connection are worthy of note, a considerable sum of money having been diverted to the industry as a result of the Committee's policy. The most equitable method of selling bananas is by auction, whereby the grower receives the best price as determined by market conditions. This system, however, is open to abuse, and the Committee of Direction some years ago found it necessary to place a buyer on the auction floor, to ensure that the true market price was determined each day as the result of effective competition at the auction sales. A further difficulty presented itself when a shortage of supplies ensued through a decrease in production, which was intensified by drought conditions. As a consequence, merchants adopted the practice of purchasing direct from growers in accordance with price bases predetermined by those in the trade. The net purchase price on the plantation had an influencing effect on growers, consequently merchants were able to secure large quantities of bananas often at rates considerably below the market value. The purchase of this fruit at a comparatively low figure also had the effect of keeping down the prices at auction. The Committee of Direction endeavoured to bring about a voluntary arrangement with the merchants for a cessation of this practice of direct buying, but owing to shortage of supplies and the fact that at this stage there was a considerable amount of buying being done for New South Wales agents in furtherance of their attempts to nullify the efforts of that State's Banana Marketing Board, only temporary success was achieved. It was then recognised that just as it had been necessary for the Committee of Direction to place a buyer on the "green" selling floor to ensure that the grower received a commensurate return, so also was it imperative that a similar policy should be followed in this field.

Ripening Rooms.—The Committee of Direction ripening rooms in Brisbane, Sydney, and Rockhampton again worked to capacity during the peak period of the year, and have performed a very useful and necessary function in ensuring the public a properly ripened banana. In Rockhampton, the last link in the chain of Committee of Direction ripening rooms which were installed at the commencement of 1936, there has been a considerable increase in the banana trade, and the Manager of that Committee of Direction Branch attributes the increased turnover in no small measure to the operations of the ripening rooms. In Sydney a survey of ripening methods was recently made by an officer of the New South Wales Department of Agriculture, and the Committee of Direction rooms were one of a set of three approved by such officer. In Melbourne, where the rooms are admittedly the finest set of ripening rooms in Australia, the lack of support is to be deplored, particularly in view of the fact that the frequent complaints from that city of poor quality bananas are attributable to faulty ripening methods.

Production.—The decline in banana production is causing grave concern, particularly as the main producing area is the Border district, which is so prone to annihilation by bunchy-top. The Committee of Direction is co-operating with the Banana Industry Protection Board in endeavouring, unobstrusively, to bring about a rehabilitation of the industry in North Coast centres. It is considered that the application of scientific principles to the cultivation of bananas will have the same effect on the economic production of this fruit as is now apparent in the pineapple industry. The Commonwealth grant to the banana industry, given at the time of the re-introduction of Fijian bananas, is now being re-considered. In the past it has been applied to research into pest and disease problems, as a result of which control measures have now been evolved for the major pests and diseases of the banana. Application has been made to the Commonwealth Government for a continuance of this grant, to be applied rather to research into cultural practices and soil rejuvenation than to disease problems.

PINEAPPLE SECTION.

This has been a record year for pineapple production. Both the winter and summer cannery crops comprising 247,505 and 242,096 cases respectively, were in excess of the previous record cannery crop, viz., the summer crop of 1935, which totalled 235,448 cases.

These crops can be regarded as the first indication of the heavier production to come as a result of the application of scientific principles to the cultivation of pineapples.

There has been a considerable increase in the production of pineapples in Bowen, so much so that one of the canners has promised to instal a factory there as soon as the district can guarantee a factory crop of 50,000 cases annually. In Central Queensland also production is being fostered by the Central Queensland Meat Export Co. Pty. Ltd., which intends to erect a cannery as soon as the fruit is available in sufficient quantities.

In the meantime to ensure that the production of pineapples is being carried out on an economic basis, an intensive investigational programme covering a period of four years has been undertaken. The cost of this work is being met by the Fruit Industry Sugar Concession Committee, the canners, the growers, and the Rural Credits Branch of the Commonwealth Bank. The Department of Agriculture and Stock has now a full staff of scientists concentrating in the field and the laboratory on pineapple problems.

Basis of Acceptance of Cannery Pineapples.—The summer crop of 1937 saw a revolutionary change in the basis of acceptance of cannery pineapples, from a per case basis to a weight basis. With the exception of pineapples all major factory fruits are bought by weight. Previous efforts to bring about acceptance of pineapples by weight had not been successful, but in the winter of 1936 an experiment was conducted at the State cannery with one district only, the fruit being supplied without tops by Glasshouse Mountains. The system met with the general satisfaction of the growers of this district, so much so that for the period July, August, and September, Glasshouse Mountains decreased its interstate loadings by 4,000 cases on the quantities sent for the same three months of the previous year, that is during the period of the main winter crop. This led to a number of requests being made by other districts for a general change over to the weight system for the 1937 summer crop. After a series of test weighings a price per ton was arrived at equivalent to 4s. 6d. per case, plus 2d. per case for topping.

Export.—Fifty-five thousand cases ex the winter pack, and approximately the same amount ex the summer pack, were processed for export. Although almost the whole of the crops could have been absorbed on the Australian market, it was very necessary to preserve a continuity of supply of the Australian product on the overseas markets, particularly Canada, where nonfulfilment of orders in 1936 had led to a diversion of the Australian business to South Africa. Further, the remission of duty which had been granted, admitting Australian canned pineapples into Canada duty-free, placed them at an advantage of 1 cent per lb. over Singapore. Failure to supply the Canadian market would undoubtedly have led to the loss of this preference, which had only been secured at the commencement of the winter crop after determined representations.

A maximum amount of £10,000 for the year 1937 was made available by the Fruit Industry Sugar Concession Committee for export assistance. In no year has the amount granted been drawn upon to the full extent, or even half, and it is again anticipated that this year the sum allotted will be considerably in excess of the amount required. With indications of increased production, however, it should not be many years before assistance will be required to a much greater extent than previously. The grant this year will be made to the exporting canner on a bonus per dozen basis.

Growers' Cannery Movement.—The establishment of a growers' cannery has frequently been advocated during the past ten years. A very determined move has, however, recently been made towards this end, as a result of the wish expressed by the Minister that the identity of the growers' organisation should be preserved on the label of the canned product overseas. Fear on the part of growers also that the anticipated increased production might be in excess of present cannery capacity, resulting in the non-absorption of the whole of the crop surplus to fresh fruit market requirements, with consequent unpayable prices on glutted markets, has also been responsible for the move for a grower-controlled cannery.

CITRUS SECTION.

The citrus crop of 1937, perhaps to a greater extent than any other fruit crop, was seriously affected by the drought conditions of the last six months of 1936. The extreme heat which followed the light rains that fell withered three settings of fruit, and growers in the coastal districts had an extremely light crop this year.

With juice oranges also, the quantity taken and the price paid by the Queensland manufacturers are determined by the price at which orange juice is offered from the South, and it is a fact that for years Queensland manufacturers have paid growers a price per ton which resulted in the cost of manufacture of their juice actually being higher per gallon than what they could land it at from the South.

Mandarin Scheme.—With the lessened crop, there was no continuation of the Mandarin Bounty Scheme this year, whereby a bonus of 2s. per case was paid on Queensland mandarins marketed in Sydney. The scheme had been the means of establishing an outlet for high-quality Queensland mandarins of the "Beauty of Glen Retreat" variety, and the Brynestown and Gayndah growers this year, recognising the necessity of maintaining this outlet against normal crops, have sent small quantities of Glens to the Sydney market. Howard and Burrum districts again supplied the Melbourne market with high-quality Emperors.

Statutory Organisation.—During the year the Commonwealth Government passed the legislation necessary to give to the citrus industry a Commonwealth-wide organisation to act in the same category on behalf of the citrus industry as the Australian Apple and Pear Council does on behalf of the apple and pear growers. The manager of the Committee of Direction was appointed Queensland's representative on the Australian Citrus Advisory Council, but was unable to attend the one meeting that has been held.

OTHER FRUITS SECTION.

Papaws.—Papaw-growers experienced a very satisfactory year. The popularity of tropical fruit salad and the rapid growth of this trade have meant stability for the papaw industry, and over the last two years canners, nine of whom are now engaged in the manufacture of this line, have been unable to obtain their full requirements. The drought conditions of last year and the early portion of 1937 have curtailed this season's crop considerably, and unfortunately canners will receive even shorter supplies than last season. The price paid by canners for the 1937 season was increased by £1 10s. per ton over last year's price, growers now receiving £10 10s. per ton for the ripe fruit and £8 10s. per ton for green fruit.

A feature of this year's cannery operations on papaws was the handling of Yarwun fruit. This proved a welcome relief to the growers of this district at a time when market supplies were plentiful.

Interstate deliveries have been maintained, and efforts to educate the Southern public to a true appreciation of the papaw have been sustained by certain metropolitan growers who are able to pick the fruit at practically the same stage of maturity as they would for the Brisbane market. Their efforts have been rewarded, as prices ranging as high as £1 per case had been realised for such fruit.

Strawberries.—In January, 1936, an announcement was made that there was every indication of an unlimited outlet with canners for strawberries at a price increase of ½d. per lb. The early publication of this prospect gave growers encouragement to increase their plantings, but unfortunately the severity of the drought in July, August, and September caused a premature termination of the crop at a stage when 80 tons or more could have been placed with canners. If favourable weather had been experienced, a record quantity of strawberries undoubtedly would have been produced, as up to the end of August factory deliveries were two and one-third times the quantity placed for the corresponding period of the previous year, when the best factory outlet was experienced since 1929. The effects of the drought were devastatingly indicated by the delivery of only Three-quarters of a ton for the first week in October, as against 7 tons delivered in the same week of the previous year. The season finished only 8 tons in excess of deliveries during the 1935 season.

An announcement was again made in January of this year of an excellent cannery outlet, one canner alone guaranteeing to take an unlimited quantity at 6d. per lb., a further advance of 1d. per lb. This had the effect of very heavy plantings being made, but drought conditions during the planting and growing period have again curtailed the crop. It is hoped, however, that later rains, although light, will ensure a heavy late crop.

The Committee of Direction again arranged regular supplies to Melbourne by ship's cooler. These Queensland berries are each year a feature of Melbourne winter fruit trade.

Figs.—A meeting of fig-growers is usually held prior to the commencement of the season, when arrangements for the marketing of the crop are made. At a meeting in December last, the growers present expressed the opinion that the crop would be seriously depleted as a result of drought conditions. This forecast was fulfilled, the cannery crop being only 68 tons, as against 120 tons delivered last season. The canners agreed to a further increase in the price of figs, and growers received 2d. per lb., compared to 1½d., which ruled from 1931 to 1935, and 1¾d. in 1936.

Passion Fruit.—The development in the tropical fruit salad trade has also meant a strong demand for passion fruit, and growers of this fruit have had a series of satisfactory seasons. Supplies have been insufficient to meet the requirements of the canners and drink manufacturers. Approaches were made by Southern canners for supplies, and some growers entered into contracts to supply factory fruit at a price of 10s. per bag. This action on the part of growers is deplored by the Committee of Direction, which attributes a large measure of its success in dealing with factories to the fact that canners have always been given a scrupulously fair deal. Some years ago canners loyally observed a verbal arrangement with the Committee of Direction by handling a record quantity of direct supplies at 8s. per bag, when large quantities of better-quality fruit could have been purchased on the open market at half the price.

When the crops became light, canners naturally looked to the Committee of Direction for supplies. The action of the growers in entering into interstate contracts meant that the Committee of Direction was unable to reciprocate the action of the canners by guaranteeing supplies. As a result, some canners have now secured their future requirements from interstate sources. It is feared the action of the passion fruit growers in a time of scarcity may have a serious reaction against Queensland growers in later years.

Tomatoes.—The spring crop of South Queensland was seriously affected by the drought, and those growers who had irrigation plants realised excellent prices for their tomatoes.

The unsatisfactory marketing conditions in Sydney for Queensland tomatoes, Sydney being the principal market for the crop of the Redlands district, led to these growers sending one of their number there to make an investigation. As a result, these growers have decided to appoint a representative to be present on the Sydney market during the whole of the marketing of the 1937 spring crop. This representative will, in addition to supervising selling conditions, report to growers as to the condition of the fruit on arrival, and will make recommendations as to better packing, &c.

DECIDUOUS SECTION.

Production.—The crop of deciduous fruits was of normal proportions, and generally the growers experienced one of the most satisfactory seasons for some time.

Apple Export.—During the season a total of 25,941 cases of apples was exported, this quantity being only 300 cases in excess of last year's total. The exports were distributed as follows:—

To—	Cases.
United Kingdom and intermediate ports	15,443
Eastern ports	10,498
	25,941

The quantity sent to the East is the highest yet sent to these markets, being 6,400 cases in excess of last year's figures.

Two very satisfactory features characterised the season's export operations—viz., the excellent realisations for Jonathan apples exported "on consignment" to London, and the valuable contacts made by the Committee of Direction with Eastern and English buyers of Granny Smith apples.

Jonathans sent "on consignment" returned to the growers prices ranging from 7s. 0¼d. to 9s. 0½d. Stanthorpe, these returns including the bonus of 1s. per case offered by the Committee of Direction to encourage export consignments. The net Stanthorpe realisation for Jonathans last year was 4s. 6·43d., and it is thus gratifying that the few growers who have persevered with export "on consignment" have had their enterprise rewarded this season. This season Jonathans were exported ten days earlier than ever before, and although the season was somewhat earlier than usual, it appears that, with care in the selection and picking of the fruit, the Jonathan can be exported earlier than was originally thought. The advantage in being a fortnight ahead of the other Australian States on the English market is obvious. All apples were packed under the supervision of the officers of the Department of Agriculture and Stock, and, provided growers again co-operate with these officers, an earlier export of Jonathans should be arranged in future seasons.

The consignments to the United Kingdom of 15,443 cases fell very far short of Queensland's quota of 27,000 cases, and this continued inability to fulfil the allotted quota has considerably weakened Queensland's position for a maintenance of a satisfactory export quota. With increased production of apples evident from each annual census return, the increased business in the East, therefore, and the contacts made there last season, are particularly valuable, as it seems that Queensland will need to depend very largely upon the Eastern markets for any development of her exports.

Hail Insurance.—Efforts to establish a hail insurance fund in the Stanthorpe district have extended over many years. Several ballots have previously been held on the question, but success over the whole of the district was never obtained, chiefly owing to the fact that the southern area was not so subject to hail as was the northern end, and the vote of the southern growers, in addition to those who were not in favour in the northern end, resulted in the defeat of the ballot. With severe loss from hail, a voluntary scheme was adopted in the 1932-33 season, when by ballot the levy collections of 10d. per ton on fruit and vegetables were diverted to a fund to provide hail relief. For the 1933-34 season the levy for this purpose was increased to 1s. 6d. per ton, and the following season to 1s. 8d. per ton. Each year the full amount collected was returned *pro rata* to the claims submitted.

This levy operated until 22nd December, 1935, and by it an amount of £476 13s. 2d. was collected for the 1935-36 season. Claims submitted for loss sustained up to the 22nd December of that year were paid on a pro rata basis, but the amount of compensation paid to each grower was very small indeed, the estimate of the loss to that date being £8,500 to meet, of which only £476 was available. The damage by hail over the whole of the 1935-36 season was estimated at £15,100.

Prior to the commencement of the 1935-36 season a ballot was taken for the establishment of a hail insurance fund, but only a 36 per cent. vote was recorded. Later in the year, a further ballot was conducted over the whole district on the question of a continuance of the compensation fund on a voluntary basis, but only a 52 per cent. vote was recorded in its favour. Concurrently with this ballot, a further ballot was taken of the growers in the northern end only, resulting in 57·4 per cent. of such growers being in favour of contributing 3s. 4d. per ton on fruit only for the purpose of continuing the Hail Compensation Fund. This was regarded as a fairly conclusive expression of opinion that these growers desired some form of hail compensation, and accordingly a further ballot was taken of the Northern growers only. This resulted in a 60 per cent. vote in favour of the collection of a levy of 3s. 4d. per ton, but as by that time the season was nearly over, the levy was not put into effect. The heavy losses from hail in the 1935-36 season, however, showed the necessity for a fund which would give more adequate compensation to the growers concerned. Prior to the 1936-37 season, therefore, a ballot was taken of the growers in the northern end of the district on the question of the establishment of the Stanthorpe Co-operative Hail Insurance Fund scheme to operate in such specified area. With the 68·6 per cent. vote in favour the fund was automatically established. The growers concerned contribute at the rate of 6s. 8d. per ton, i.e. 2d. per bushel case and 1d. per half-bushel case on fruit only. In addition to the growers' contributions a grant of £1,000 was made from the capital reserve of the Deciduous Sectional Group Committee, and £2,000 from the Queensland Government, the latter contribution to be applied in annual payments of £400 for five years, each year's contribution to be dependent on the Minister for Agriculture being satisfied as to the efficiency and management of the scheme from year to year. As at the 30th June, the position of the fund was—

	£	s.	d.
Transfer from Deciduous Capital	1,000	0	0
Contributions from Department of Agriculture	400	0	0
	£1,400	0	0
Grower Contributions	2,051	3	1
	£3,451	3	1

The maximum amount of insurance payable out of the fund for sound fruit is 3s. 4d. per bushel, but the scheme also provides that payments to growers and administration expenses at the end of the season shall not exceed 50 per cent. of the amount to the credit of the fund, and that in the event of claims being heavier than 50 per cent. then the payments to growers are to be on a pro rata basis to the amount available. Fortunately, hail losses were comparatively light, and all claims were paid at the maximum rate. The amount disbursed from the fund was as follows:—

	£	s.	d.
In meeting claims	896	7	10
Expenses, refunds, &c.	117	2	3
Total	£1,013	10	1

This left a balance of £2,437 13s. to carry forward into next year. Thus, assuming grower contributions are approximately the same next season there should be a very satisfactory amount available to meet losses occasioned by hail damage, viz.,

	£	s.	d.
Carried Forward	2,437	13	0
Contribution, Department of Agriculture	400	0	0
Grower Contributions ..	2,051	3	1
	£4,888	16	1

On these figures slightly over £2,400 should be available to meet hail losses.

This fund has been established to coincide with the life of the Committee of Direction, that is until December, 1939. Should the term of the Committee of Direction be extended provision is made for the extension or discontinuance of the scheme by a poll demanded by petition of 100 growers.

HONEY BOARD.

Personnel of the Board to 8th March, 1938:—Messrs. O. N. Tanner (Chairman), C. W. Edwards, R. V. Woodrow, H. E. Fagg, and E. Graham (Director of Marketing).

The twelve months just ended marked the closing stages of a two-year period in which low prices and drought have had their repercussions on the bee-keeping industry in Queensland, as a consequence of which apiarists have received very poor returns, if any, as a result of their efforts to derive a living from this calling. As mentioned in my last annual report, the considerable quantities of honey imported from the Southern States depressed values on the local market, thus adding to the Board's difficulties in its efforts to retain the business of Brisbane packers and obtain satisfactory prices for the large quantities of second-grade honey delivered to its selling agents. In the latter half of 1935-36 the position was somewhat relieved through adverse seasonal conditions setting in, apiarists being obliged to purchase considerable supplies of low-grade honey for the purpose of feeding their bees.

Queensland apiarists were similarly circumstanced during the period under review, although the Board had not to contend with heavy stocks owing to the continued drought seriously affecting the honey flow. The Board's receivals for the period amounted to 3,181 (60-lb.) tins only, compared with 9,224 tins in the previous year. The 1936-37 receivals, together with a carry-over of 1,196 tins at the 30th June, 1936, made a total of 4,377 tins available for disposal, of which 4,187 tins have been sold, the prices ranging as follows:—

1,472 tins from 4d. to 4½d. per lb.
1,301 tins from 3d. to 3¾d. per lb.
1,237 tins from 2d. to 2¾d. per lb.
177 tins from 1d. to 1¾d. per lb.

The quantity of beeswax sold over the same period amounted to 10,126 lb., the price for which was maintained throughout at 1s. 6d. per lb.

The prospects for the next season's flow at the moment are poor, and the Board is more than ever faced with the problem of competition from Southern importations. With a view to reducing the large surplus in the Southern States, a Commonwealth-wide publicity campaign is being launched, whereby it is hoped to stimulate the domestic consumption of honey in the various States. Although such a campaign will be of no direct benefit to the beekeepers of Queensland, any appreciable clearing of Southern stocks in the near future should result in a more stable market, in which event apiarists in this State should be advantaged when the next season's flow is ready for disposal.

NORTHERN PIG BOARD.

Personnel of the Board to 31st December, 1937:—Messrs. W. J. Sloan (chairman), W. E. Tanner, W. Scott, D. Johnston, J. F. Britton, and E. Graham (Director of Marketing).

Prior to the expiration of the Board members' term of office on 31st December, 1936, nominations were called for the election of growers' representatives for a further twelve months' term. Nine candidates' names were submitted, necessitating a ballot which resulted in the above personnel being returned. Of the retiring members, Mr. R. Campbell did not nominate, while Messrs. Foxwell, Collard, and Knudsen, were among the unsuccessful candidates.

During the year ended 30th June, 1937, the Board handled 11,124 pigs, an increase of 1,424 as compared with last year's figures. Two hundred and twenty head of cattle were also slaughtered. Of the above pigs handled, 8,503 were first grade, and averaged 106 lb., 1,806 were second grade, 554 were third grade, and 261 were smallgoods. One hundred pigs were sold alive to butchers for slaughter.

The average price paid for first grade pigs was 5·45d. as compared with 4·89d. last year, an increase of ½d. per lb. The total amount of money paid to growers was £26,782. The Board showed a slight loss of 11s. 11d. on the year's transactions.

The quality of the pigs received during the year was very good, although there was a fair number of fat animals amongst them. Fat bacon is difficult to sell in North Queensland, but the Board anticipates that during the ensuing twelve months there will be an additional decline in the percentage of over-fat pigs received. Although the number of pigs received in 1936-37 showed an increase of 1,424 on the previous year, the number is still insufficient for local trade requirements. The prospects are bright, however, for a further increase in supplies during 1937-38.

PEANUT BOARD

Personnel of the Board to 27th August, 1937. —Messrs. C. F. Adermann (chairman), R. R. Nothling, L. V. Young, A. G. Whiting, and E. Graham (Director of Marketing).

Messrs. Whiting and Young automatically retired on the expiration of their term of office on the 27th August last, and in the resultant ballot in District No. 1 Mr. Young was the successful candidate, while Mr. Whiting, the North Queensland representative, was returned unopposed for District No. 3. These two members were appointed until August, 1938, to hold office with Messrs. Adermann and Nothling, whose term expires in August of this year.

By an Order in Council issued in August, 1930, it was provided that two of the four growers' representatives appointed at the 1930 election should hold office for two years until August, 1932, while the two remaining Board members were to retire in August, 1931, and their successors elected for two years. From that time up to and including the 1936 election this procedure applied, two members retiring in rotation each year after a two-year term of office.

The election of Board members for periods of one or two years has militated against a continuity of the Board's policy and the efficient administration of the affairs of the industry. To overcome this difficulty Messrs. Whiting and Young have voluntarily tendered their resignations as from the 27th August next, and provision was made in an Order in Council issued on the 17th instant for the four growers' representatives to be elected for three years as from the 28th August, 1937.

1935 *Season.*—This season's transactions were finalised on the 20th January, 1937, by a final advance to growers of ·43d. per lb. on all peanuts received ex that crop. This payment amounted to £17,254 9s. 2d., making the total net payments on the crop £91,355 15s. 8d., exclusive of the levy, which amounted to £10,029 18s. 5d. The average price returned to growers was 2·53d. per lb., including the levy of a farthing per lb. The administrative expenses of this particular Pool amounted to ·85d. per lb.

1936 *Season.*—The 1936 season's intake was the largest ever received by the Board, aggregating 7,289½ tons, thereby exceeding the 1935 season's crop by 2,990½ tons. The 1936 receivals at each centre were as follows:—

—	Virginia Bunch.	Spanish.	Valencia.	Total.
	Tons.	Tons.	Tons.	Tons.
Kingaroy ..	2,437·04	3,999·39	12·20	6,448·64
Rockhampton	115·76	4·39	..	120·13
Atherton ..	532·38	187·47	..	720·71
	3,085·18	4,191·25	12·20	7,289·48

1937 *Season.*—Growers have been paid advances to date on the following deliveries ex the 1937 crop:—

	Virginia Bunch.
	Tons.
Kingaroy	1,584·88
Rockhampton	15·55
Atherton	175·96
	1,776·39

Approximately 9,000 acres were planted during this season, and the anticipations are that on the completion of the intake the receivals will amount to 4,100 tons of Virginia Bunch and 65 tons of "self-sown" Spanish peanuts.

The necessary crop finance has again been obtained from the Rural Credits Department of the Commonwealth Bank of Australia, but on this occasion without recourse by the bank to a Government guarantee.

General.—Although the 1936 season's intake was the largest in the history of the industry, the Board has experienced a successful year, and the indications are that the large carry-over of the Spanish variety of peanuts will be cleared before the 1938 crop is harvested. Sales for the year under review approximated £145,000, again showing a marked increase on the previous twelve months. The net amount paid to growers during the year was £111,154. As a further indication of the Board's satisfactory position it is interesting to record that during the year the balance of the £42,500 loan from the Commonwealth Bank for the erection of silos and the purchase of machinery and plant was repaid from the levy funds, and that the levy as from the 1937 season has been reduced from a farthing to one-eighth pence per lb. The question of extra storage accommodation has been a matter that has exercised the attention of the Board during the year. Owing to insufficient space at the silos, a large percentage of the 1936 season's record crop was stored in all available sheds in the Kingaroy district, in addition to dumps which were constructed in the silo yards. An additional storey was also added to the Board's large grading and storage shed. Apart from the fact that the storage was thus overtaxed, the need has arisen for the provision of extra storage, and with this object in view the Board has under consideration the matter of the erection of additional silos at Kingaroy.

One of the first steps in this direction has been a request from the Board that the operations of the Peanut Board be extended from the 28th August, 1940, to the 27th August, 1947. A Notice of Intention in this regard was accordingly issued on the 24th instant.

NORTHERN PLYWOOD AND VENEER BOARD.

Personnel of the Board to 2nd May, 1938.—Messrs. J. F. Brett (Chairman), G. D. Gummow, A. E. Gibson (Deputy for the Director of Marketing), and G. A. Duffy (Chairman, Timber Advisory Committee, Forestry Sub-Department).

As mentioned in my last annual report, the Northern Plywood and Veneer Board works in conjunction with the Plywood and Veneer Board. The major activities of the Northern body for the period under review are included in my report on the operations of the Plywood and Veneer Board.

A further plywood factory is now under construction in Cairns, and the principals expect that production will commence in July, when application will be made for representation on the Board.

The Council for Scientific and Industrial Research is making intensive investigations into the treatment of veneers to ensure immunity from the attack of borer. Success in these experiments would result in the commercialising of many million feet of timber growing in the Northern scrubs which hitherto have not been marketable. On the completion of these experiments in Melbourne, the Plywood and Veneer Board (Queensland) and the Forestry Sub-Department will co-operate in the erection in Brisbane of a special plant for demonstrating methods for dealing with borer attack, when an officer of the C.S.I.R. will demonstrate the methods of treatment.

PLYWOOD AND VENEER BOARD.

Personnel of the Board to 2nd May, 1938.—Messrs. J. F. Brett (Chairman), R. H. Bentley, M. J. G. Brims, J. E. Christoe, R. J. Donaldson, J. W. Jackson, G. W. Nutting, J. H. Hancock, H. R. Hancock, C. R. Paterson, A. E. Gibson (Deputy for Director of Marketing), and G. A. Duffy (Chairman, Timber Advisory Committee, Forestry Sub-Department).

In April, 1937, Mr. George Brown, representing Messrs. Brown and Broad Newstead Homes Ltd., resigned as a member of the Board, and Mr. Henry Roy Hancock was appointed in his place.

During the past twelve months the policy of the Board with regard to the marketing of plywood has been consistently adhered to, while its efforts to maintain a high standard of production have not been relaxed. In this connection it may be mentioned that the Queensland Railways are using a specially constructed water-resistant plywood, made of Queensland hoop pine, and this is proving satisfactory.

Further evidence of the Board's continual desire to further improve the quality of plywood is found in the fact that last year negotiations were entered into with the Forestry Sub-Department for the installation of a special experimental equipment whereby the testing of all plywoods could be carried out. Experiments of this nature should be of inestimable benefit to the industry generally.

As a result of the investigations conducted by the Forest Products Division of the Council for Scientific and Industrial Research last year, the Board was considerably assisted in its efforts, and looks forward to the results of scientific investigation now in progress in connection with the manufacture of plywood. C.S.I.R. has given valuable advice regarding the prevention of borer attack in plywood, and has commended the Board on its efforts to advance the status of plywood generally.

In August last year it was considered that the time was opportune for an investigation to be made into conditions in New Zealand, as it was felt that should it be considered necessary to seek new markets, the Dominion of New Zealand would be most suitable. In co-operation with the Queensland Government and the Queensland Timber Export Association, Messrs. G. A. Duffy and G. W. Nutting accordingly left Brisbane in September and spent six weeks in examining every phase of the industry in New Zealand, paying particular attention to the possibilities of marketing. The information obtained has proved very beneficial, and will be of greater value as the production of Queensland plywood is increased.

A review of the year's operations discloses that the sales were lower than the preceding year to the extent of 7,816,439 square feet, representing a reduction of 14.36 per cent. This occurred chiefly in the first half of the year through a general falling-off in demand, but since January trade has again reached former proportions. The total deliveries of pine plywood for the year ended 30th June, 1937, were 46,611,668 sq. ft., based on the equivalent of a thickness of 3/16ths of an inch, the value of same being £349,587. The distribution was as follows:—

	Square feet.
Queensland	7,093,307
Interstate	39,374,304
Great Britain ..	144,057
	46,611,668

The administrative levy payable by manfacturers up to 17th October, 1936, was at the rate of 2½d. per 100 sq. ft., but since then a levy at the rate of 3d. per 100 sq. ft. has been payable on deliveries made, calculated on the equivalent of 3/16ths of an inch in thickness.

The administrative expenses for the period, including expenditure for research work, were 1·18d. per 100 sq. ft., while bonus discount paid to and including provision for payments due to larger buyers, absorbed 1/29d., making a total of 2·47d.

STATE WHEAT BOARD

Personnel of Board to 31st August, 1938.—Messrs. E. A. Thomas (chairman), W. J. Brimblecombe, T. W. McIntyre, T. Brewer, and E. Graham (Director of Marketing).

1935-36 *Season.*—The 1935-36 harvest resulted in a yield of 2,700,948 bushels, including 311,229 bushels retained on farms for seed and feed purposes. The classification and payments to growers on the Board's intake of 2,389,719 bushels 22lb. are in accordance with the following table:—

Classification.	Deliveries.		Percentage.	Payments.
	Bush.	Lb.		
Milling—				
Q1	1,898,942	28	79·47	3s. 11d.
Q2	362,544	07	15·17	3s. 9¾d. to 3s. 8d.
Q2A	108,590	33	4·54	3s. 7¾d. to 3s. 6d.
	2,370,077	08	99·18	
Feed—				
F1A	3,425	19	·14	3s. 4d.
F1	16,100	01	·67	3s. 1d.
F2	116	54	·01	2s. 11d.
	2,389,719	22	100·00	

The weight loss amounted to 800 bushels 46 lb., equivalent to ·033 per cent., while the administrative expenses for the season were £32,008 1s. 9d, or 3·215d. per bushel.

Compensation paid to growers under the Board's hail insurance scheme totalled £9,782 10s. 8d.

1936-37 *Season.*—The drought prevailing during the greater portion of the year 1936 not only militated against a satisfactory yield in the 1936-37 season through adverse cultural conditions, but also necessitated considerable feeding off, thereby further reducing the volume of wheat which would, under more favourable circumstances, have been harvested. The yield aggregated 2,340,980 bushels, of which the quantity delivered to the Board amounts to 2,034,495 bushels, the balance being held by growers for seed and feed.

Two payments have been made to growers to date, the first amounting to 3s. 6d. per bushel on Q1, with relative dockages according to quality, while the second advance was at the rate of 1s. per bushel on all grades. On completion of the third interim payment which the Board is arranging to distribute early in July, the total advances up to that stage on Q1 will amount to 5s. per bushel, the highest payment since the 1926-27 season, when 6s. per bushel was paid to growers for wheat of similar quality. It is anticipated that a further advance will be paid to growers at the finalisation of the 1936-37 season's transactions.

In respect to those growers whose farming operations were not seriously affected by the drought, it may be said that excellent returns have been obtained as a result of their wheat-growing activities during the past twelve months. This may be attributed to the fact that the collective system of marketing has been applied to wheat, as a result of which the marketing organisation maintained by the growers was successful in concluding negotiations early in the season for the disposal of the crop, thereby reaping the benefit of the improved values which have been a feature of the period under review.

1937-38 *Season's Prospects.*—Although there have been some falls of rain in the wheat area, more is required to give that necessary impetus to the crop and encourage growers to increase their acreage. Rain within the next month, with further falls in August and September, would improve the prospects considerably.

The present market trend gives rise to the anticipation that prices will remain in the vicinity of their present level for some time, which should react favourably to Queensland growers in the 1937-38 season.

GENERAL.

The promulgation of the Wheat Pool Act in 1920 resulted in the implementation of the first of the primary producers' organisations operating in this State for the purpose of disposing of Queensland primary products by means of the collective marketing system, thereby ensuring to producers a fair return for their labour. That this method of marketing has proved beneficial is evidenced from the fact that as a result of the machinery provided under Queensland legislative measures, producers have availed themselves of the opportunity offering to the extent that sixteen collective marketing organisations are now maintained. The benefits which have thus accrued to producers may be placed under two headings, namely, "Service" and "Stabilisation." In respect to the former, Commodity Boards, including the Committee of Direction of Fruit Marketing, have been enabled to provide services such as bulk storage, advantages in freight rates, hail insurance, and seed supply schemes, and advice as to market conditions.

In the matter of stabilisation, the immediate effect of the constitution of Commodity Boards has been that prices were stabilised, resulting in growers receiving more remunerative returns, thereby furnishing the incentive to increase production and meet the demand for the products concerned. These concerted and renewed efforts on the part of the man on the land to increase the national wealth have also reacted favourably to the consumers who have not been disadvantaged in the process.

It can be confidently stated that since the inception of pooling in Queensland seventeen years ago, no case can be cited where the consumers have been exploited under that system, the principal object of which is the reduction to a minimum of the number of hands through which these primary products would otherwise pass, together with the additional overhead charges, before they reach the consumer.

The outstanding feature of the year 1936-37 in the sphere surrounding the disposal of primary products, was the marketing referendum following the Privy Council decision in the James appeal. The negative vote sustained clearly indicated that the question submitted for the approval of the populace was not understood by many, and that others were influenced by propaganda which wrongly purported that an affirmative vote would not be in the public interest.

The High Court, in its judgment in the year 1933 on the Peanut Case, declared in effect that marketing boards as constituted under State legislation had no jurisdiction over interstate trade in the commodities handled by them. It was held, however, that this decision did not apply to Federal Parliamentary statutes, as a consequence of which the "Commonwealth Dairy Produce Act of 1933" was enacted, providing in a similar manner to the Dried Fruits Act for the orderly marketing of butter and cheese. Complementary State legislation was passed by the Queensland, New South Wales, Victorian, and Tasmanian Governments in respect to intrastate trade.

Briefly, the marketing arrangements under this heading required each factory to export a prescribed percentage of its manufacture and accept only its fair share of the usually more remunerative and stabilised domestic market, thus preventing interstate dumping by manufacturers who would not otherwise engage in overseas export. The returns to factories were equalised through the medium of a Commonwealth Committee which was registered under the New South Wales Companies Act as the Commonwealth Dairy Produce Equalisation Committee Limited, for the purpose of maintaining stability on the local market by the equalisation of prices on an Australian basis.

The outcome of the James appeal to the Privy Council in relation to Dried Fruits, was that the Commonwealth Dairy Produce Act automatically became invalid, the Privy Council holding that the Commonwealth Government could not regulate interstate trade. The delegation of this power to the Federal Authorities involved an alteration of the Commonwealth Constitution, which could only be brought about by an affirmative vote of the electors of Australia, and in addition, a majority vote in a majority of the States.

The Commonwealth Government sought this power at a referendum in March last, but the proposal was rejected, and as a result, collective marketing organisations, in respect to interstate trade, are now functioning on a voluntary basis. To date, the period which has elapsed since the adverse vote was sustained, has been of too short duration to forecast the effect of this setback to the collective marketing structure, but as most of the primary producers concerned have continued to support their organisations up to the present, the indications are that Commodity Boards will still be able to function successfully.

The future alone will reveal whether or not producers will be thrown on their own resources and subjected to the uneconomic marketing conditions and practices prevailing prior to the inauguration of the pooling system.

E. GRAHAM,
Under Secretary and Director of Marketing.

Report of the Government Statistician on Agricultural and Dairying Production for the Year 1936.

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AGRICULTURAL AND DAIRYING PRODUCTION.

Table No. 1.

PROGRESS OF THE DAIRYING INDUSTRY.

Year.	Dairying Establishments, Exclusive of Factories.	Dairy Cows.				Production of Butter.	Production of Cheese.
		In Milk.	Dry.	Heifers within three months of milking.	Total.		
						Lb.	Lb.
1890	..	..	..	..	..	2,000,000*a*	170,240*a*
1895	..	..	..	..	..	3,719,523	1,841,799
1900	..	..	..	..	..	8,680,389	1,984,705
1905	..	..	..	..	..	20,319,976	2,682,089
1909	15,279	228,497	105,342	..	333,839	..	..
1910	16,079	262,788	102,656	..	365,444	31,258,333	4,146,661
1911	16,225	237,997	119,098	..	357,095	27,858,535	3,718,257
1912	16,579	267,847	107,813	..	375,660	30,307,339	3,947,615
1913	17,866	285,403	106,036	..	391,439	[illegible]	5,395,050
1914	18,029	288,334	98,977	..	387,311	[illegible]	7,931,869
1915	17,876	218,511	116,732	..	335,243	[illegible]	4,383,410
1916	18,410	247,855	95,456	..	343,311	[illegible]	8,495,825
1917	19,404	303,133	96,375	..	399,508	[illegible]	11,142,114
1918	19,313	255,039	126,466	..	381,505	[illegible]	8,636,700
1919	18,952	211,331	161,815	..	373,146	[illegible]	8,296,318
1920	20,457	335,026	113,608	..	448,634	[illegible]	11,512,262
1921	21,695	423,251	130,957	..	554,208	[illegible]	15,200,527
1922	21,931	418,351	145,332	..	563,683	[illegible]	10,560,316
1923	22,019	357,203	155,326	..	512,529	[illegible]	7,221,355
1924	22,596	433,531	151,355	..	584,886	[illegible]	11,093,886
1925	22,581	463,436	147,900	..	611,426	70,[illegible],646	14,242,721
1926	22,451	397,606	157,913	55,708	611,227	50,991,985	8,740,355
1927	22,547	436,337	139,970	69,009	645,316	62,552,917	12,233,520
1928	22,457	492,405	144,562	33,838	670,805	73,820,292	15,047,825
1929	22,763	507,100	142,477	31,000	680,577	77,483,845	13,229,337
1930	23,270	546,643	147,385	30,295	724,323	90,377,751	14,249,173
1931	24,016	590,656	152,668	31,977	775,301	100,565,158	12,261,457
1932	24,591	586,995	173,557	32,391	792,943	96,317,201	11,157,781
1933	25,363	673,544	164,978	38,887	877,409	114,032,603	13,941,728
1934	26,102	729,821	172,932	36,501	939,254	136,793,670	13,531,480
1935	26,618	732,002	186,764	36,980	955,746	119,124,711	10,018,788
1936	29,852	649,422	229,996	226,675*b*	1,106,093	87,474,757	7,789,890

Value of Dairying Production, 1935–36, £6,250,000. *a* Estimated. *b All* heifers.

Table No. 2.

1935.—CLASSIFICATION OF DAIRY ESTABLISHMENTS (NOT FACTORIES) ACCORDING TO NUMBER OF DAIRY COWS (INCLUDING HEIFERS INTENDED FOR MILKING).

Division.	Under 5.	5 to 9.	10 to 14.	15 to 19.	20 to 29.	30 to 49.	50 to 99.	100 and Upwards.	Total.
Moreton	979	353	513	669	1,574	2,303	1,728	378	8,497
Wide Bay	679	349	196	250	788	1,938	2,138	425	6,763
Downs	770	250	383	410	895	1,343	942	184	5,177
Maranoa	27	31	19	15	42	75	65	9	283
South-Western	1	2	2	1	1	7	2	..	16
Port Curtis	101	50	62	104	350	723	610	139	2,139
Central-Western	11	5	4	5	8	5	8	2	48
Far-Western	..	..	..	..	..	1	..	..	1
Edgecumbe	1,027	394	153	49	79	70	59	22	1,853
Rockingham	875	165	47	29	70	251	254	36	1,727
Peninsula	60	8	1	1	3	4	18	3	98
North-Western	..	1	..	3	2	6	3	1	16
Total State	4,530	1,608	1,380	1,536	3,812	6,726	5,827	1,199	26,618

NOTE.—The names of the Divisions have been adjusted since last year. For the Petty Sessions Districts in each see Table No. 31.

Table No. 3.

BUTTER AND CHEESE EXPORTED OVERSEA FOR FIVE YEARS (AUSTRALIAN PRODUCE ONLY).

Year.	Butter.				Cheese.			
	Quantity Exported Oversea.	Value.	Value per lb.		Quantity Exported Oversea.	Value.	Value per lb.	
	Lb.	£	*s.*	*d.*	Lb.	£	*s.*	*d.*
1932–33	76,544,872	2,782,761	0	8¾	6,527,007	151,462	0	5½
1933–34	98,084,492	3,259,804	0	8	6,635,988	145,834	0	5¼
1934–35	102,133,794	3,676,486	0	8¾	7,818,720	162,384	0	5
1935–36	76,230,350	3,811,709	1	0	3,480,608	83,176	0	5¾
1936–37	53,885,011	3,091,504	1	1¾	1,767,107	50,837	0	7

Table No. 4.

DAIRYING INDUSTRY IN PETTY SESSIONS DISTRICTS DURING THE YEAR 1936 (a).

Division.	Total Milk Obtained.	How Utilised.						Establishments.			Dairy Cattle.			Average per Cow.	Butter Made.			Cheese Made.		
		For Butter on Farms.	For Cheese on Farms.	For Domestic Purposes by Producer.	Separated for Sale.	Sold for Consumption.	Sold to Factories.	Dairying.	Butter Factories.	Cheese Factories.	In Milk.	Dry.	Heifers.		At Factories.	By Farmers.	Total.	At Factories.	By Farmers.	Total.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	No.	No.	No.	No.	No.	No.	Gallons.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Moreton Division.																				
Brisbane (North)	2,818,031	82,626	..	147,566	353,897	2,189,662	44,280	659	..	..	[illegible]	[illegible]	2,536	231	..	35,772	35,772	..	..	..
Brisbane (South)	913,014	15,621	..	47,316	61,656	774,125	14,296	185	..	..	[illegible]	304	164	[illegible]	..	[illegible]	[illegible]	..	..	..
Beaudesert	6,400,277	162,375	..	156,562	5,762,132	209,301	109,907	581	1	..	[illegible]	[illegible]	7,713	214	[illegible]	[illegible]	2,141,149	..	..	..
Caboolture	844,096	22,611	..	45,494	699,121	72,568	4,302	233	1	..	3,754	[illegible]	1,424	175	[illegible]	10,644	[illegible]	..	..	..
Cleveland	97,815	10,570	..	39,150	15,650	26,075	6,370	161	..	..	461	[illegible]	180	137	..	[illegible]	[illegible]	..	..	..
Crow's Nest	2,892,152	108,834	..	64,565	2,689,229	29,524	..	358	1	..	9,411	[illegible]	2,618	[illegible]	[illegible]	[illegible]	[illegible]	..	..	..
Dugandan	3,896,177	125,011	..	102,623	3,650,757	17,786	..	564	1	..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	..	..	..
Esk	1,176,732	35,033	..	35,483	1,090,933	15,283	..	174	1	..	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	..	..	..
Gatton	1,913,834	111,936	..	107,461	1,667,485	22,822	4,130	169	2	..	[illegible]	[illegible]	[illegible]	190	[illegible]	[illegible]	1,576,559	1,299	..	1,299
Harrisville	2,435,674	94,080	..	67,456	2,166,927	90,888	16,323	381	..	..	[illegible]	[illegible]	[illegible]	[illegible]	..	[illegible]	[illegible]	..	..	..
Ipswich	1,099,696	40,494	..	72,786	758,591	216,082	11,743	228	2	..	[illegible]	[illegible]	[illegible]	240	[illegible]	[illegible]	[illegible]	..	..	..
Kilcoy	2,142,937	57,474	..	42,707	2,034,678	7,978	100	158	..	..	[illegible]	[illegible]	[illegible]	255	..	[illegible]	[illegible]	..	..	..
Laidley	1,926,549	82,349	..	94,786	1,693,785	49,011	6,618	498	1	..	[illegible]	[illegible]	[illegible]	230	[illegible]	[illegible]	[illegible]	..	..	..
Logan	2,000,464	85,885	..	81,300	1,570,629	[illegible]	[illegible]	174	1	..	[illegible]	2,416	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	..	..	..
Lowood	1,441,437	52,699	..	60,066	1,305,095	[illegible]	[illegible]	293	1	..	[illegible]	1,212	[illegible]	228	[illegible]	[illegible]	[illegible]	..	..	..
Marburg	1,410,953	46,209	..	43,419	1,242,449	50,259	28,617	244	..	..	[illegible]	[illegible]	[illegible]	257	..	[illegible]	[illegible]	..	..	..
Maroochy	7,528,226	259,529	60	257,943	6,806,186	204,508	..	1,202	2	..	[illegible]	[illegible]	[illegible]	245	[illegible]	[illegible]	[illegible]	..	50	50
Redcliffe	2,801,787	37,108	..	73,083	915,606	[illegible]	773,255	328	1	..	[illegible]	[illegible]	[illegible]	222	[illegible]	[illegible]	[illegible]	..	..	..
Rosewood	2,063,781	66,016	..	52,760	[illegible]	[illegible]	31,204	510	..	..	7,204	[illegible]	[illegible]	[illegible]	..	[illegible]	[illegible]	..	..	..
Southport	5,475,935	124,224	..	109,189	[illegible]	[illegible]	89,716	500	..	..	[illegible]	[illegible]	[illegible]	235	..	[illegible]	[illegible]	..	..	..
Toogoolawah	2,576,447	83,347	..	77,452	2,322,800	92,848	..	309	..	..	[illegible]	[illegible]	[illegible]	208	..	[illegible]	[illegible]	..	..	..
Woodford	2,766,225	52,554	..	50,699	[illegible]	[illegible]	77,372	211	1	..	[illegible]	2,610	[illegible]	254	[illegible]	[illegible]	[illegible]	..	..	..
Wynnum	197,360	12,597	..	18,848	1,170	164,745	..	71	..	..	[illegible]	183	[illegible]	[illegible]	..	[illegible]	[illegible]	..	..	..
Oakey-Cooyar	1,288,402	52,411	..	31,825	1,203,294	872	..	127	..	..	4,032	[illegible]	[illegible]	245	..	24,102	24,102	..	..	..
Toowoomba-Helidon	1,541,925	61,722	..	52,479	1,417,591	6,433	3,700	267	..	..	5,508	[illegible]	[illegible]	206	..	[illegible]	[illegible]	..	..	..
Total Moreton	59,649,926	1,883,315	60	1,933,018	48,568,180	5,994,637	1,270,716	8,896	16	..	202,321	59,275	59,198	228	23,161,600	872,532	24,034,132	1,299	50	1,349
Wide Bay Division.																				
Biggenden	3,965,929	101,378	..	68,200	3,507,739	9,154	279,458	352	1	2	14,563	4,125	4,845	212	1,714,250	47,922	1,762,172	226,264	..	226,264
Bundaberg	2,417,932	262,654	10	207,015	1,721,142	219,711	7,400	915	1	..	10,769	[illegible]	4,394	147	1,381,654	115,670	1,497,324	..	10	10
Childers	308,195	48,799	..	56,961	177,687	22,016	2,732	200	..	..	1,582	1,073	[illegible]	118	..	20,884	20,884	..	..	..
Eidsvold	1,293,511	46,707	..	46,333	1,193,186	7,285	..	187	..	..	5,314	2,260	[illegible]	171	..	21,840	21,840	..	..	..
Gayndah	4,870,571	148,007	..	128,024	4,493,634	84,477	16,429	603	2	..	[illegible]	8,754	[illegible]	175	2,977,546	64,994	3,042,540	..	..	..
Gin Gin	875,325	103,926	..	70,249	692,410	8,740	..	275	..	..	4,144	1,749	[illegible]	149	..	42,541	42,541	..	..	..
Gympie	16,147,242	353,282	..	312,215	15,317,156	149,422	15,167	1,555	4	..	57,095	[illegible]	17,887	221	7,537,528	172,621	7,710,149	..	..	..
Kilkivan	1,236,679	38,749	..	27,776	1,122,290	47,864	..	142	..	..	5,057	1,698	[illegible]	183	..	17,574	17,574	..	..	..
Maryborough	1,467,752	114,395	..	96,948	1,034,756	210,653	11,000	484	1	..	6,312	3,091	[illegible]	156	837,819	50,790	888,609	..	..	..
Mount Perry	136,267	18,013	..	13,438	102,699	2,117	..	59	..	..	846	619	574	93	..	8,199	8,199	..	..	..
Nanango	9,208,386	283,824	..	210,507	8,633,428	56,131	24,496	976	2	..	29,772	10,510	9,456	228	4,752,221	132,515	4,884,736	..	..	..
Tiaro	2,677,451	95,643	3,592	76,732	2,480,311	21,173	..	368	..	..	11,453	4,115	4,605	172	..	47,100	47,100	..	3,500	3,500
Wienholt	12,604,102	312,947	..	249,394	11,801,739	141,437	98,585	1,113	3	..	40,396	11,849	13,726	241	5,917,216	147,915	6,065,131	..	..	..
Total Wide Bay	57,209,342	1,928,324	3,602	1,563,792	52,278,177	980,180	455,267	7,229	14	2	206,321	71,396	75,048	206	25,118,234	890,865	26,009,099	226,264	3,510	229,774
Downs Division.																				
Allora	2,112,686	67,951	..	76,900	1,833,539	8,655	125,641	315	1	2	5,305	1,459	1,915	312	1,104,598	30,315	1,134,913	151,303	..	151,303
Chinchilla	2,394,730	69,758	..	61,767	2,233,671	29,534	..	280	1	..	7,144	3,999	3,207	209	1,375,460	32,609	1,408,069	..	..	..
Clifton	3,159,017	132,752	1,680	105,448	2,422,194	49,744	447,199	495	1	4	8,330	2,101	2,775	303	1,178,492	61,663	1,240,155	408,472	1,680	410,152
Condamine	1,568,193	71,578	..	64,247	1,428,843	3,525	..	275	1	..	4,889	3,347	2,642	190	808,080	32,846	840,926	..	..	..
Dalby	7,383,976	219,015	..	200,165	5,980,492	124,722	859,582	810	1	5	22,909	10,154	7,904	223	3,582,835	90,987	3,673,822	911,014	..	911,014
Goondiwindi	244,206	33,715	..	49,095	141,290	20,106	..	108	1	..	891	761	350	148	122,368	12,599	134,967	..	..	..
Inglewood	777,804	29,191	..	41,302	668,240	39,071	..	135	..	..	2,461	1,352	886	204	..	12,555	12,555	..	..	..
Killarney	1,534,404	59,217	..	41,103	1,413,292	12,876	7,916	216	1	..	3,408	1,405	1,278	319	922,872	25,989	948,861	..	..	..
Oakey	9,714,027	220,188	..	181,365	7,406,697	100,440	1,805,337	859	2	15	25,739	8,008	7,082	288	4,342,796	102,619	4,445,415	1,777,043	..	1,777,043
Pittsworth	5,683,465	126,982	..	141,832	3,217,190	103,270	2,094,191	616	1	12	14,543	3,980	4,330	307	762,785	58,107	820,892	2,831,784	..	2,831,784
Stanthorpe	239,922	90,361	200	115,359	15,727	18,275	..	482	..	..	940	545	459	162	..	39,914	39,914	..	200	200
Texas	479,748	22,029	..	30,744	420,510	4,605	1,860	101	1	..	1,576	725	366	208	275,852	9,177	285,029	..	..	..
Toowoomba	4,252,097	154,993	..	146,252	2,591,278	425,257	934,317	618	1	10	10,912	3,063	3,068	304	3,072,326	72,351	3,144,677	1,126,556	..	1,126,556
Warwick	3,175,268	161,311	..	137,870	2,561,577	148,294	166,216	638	1	4	8,968	2,909	3,189	267	2,007,052	71,697	2,078,749	338,191	..	338,191
Total Downs	42,719,543	1,459,041	1,880	1,393,449	[illegible]	[illegible]	[illegible]	5,948	13	52	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Division.	Total Milk Obtained.	How Utilised.						Establishments.			Dairy Cattle.			Average per Cow.	Butter Made.			Cheese Made.		
		For Butter on Farms.	For Cheese on Farms.	For Domestic Purposes by Producer.	Separated for Sale.	Sold for Consumption.	Sold to Factories.	Dairying.	Butter Factories.	Cheese Factories.	In Milk.	Dry.	Heifers.		At Factories.	By Farmers.	Total.	At Factories.	By Farmers.	Total.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	No.	No.	No.	No.	No.	No.	Gallons.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Maranoa Division.																				
Roma	1,635,012	98,944	..	113,846	1,388,293	33,929	..	344	1	..	6,566	2,631	2,499	178	899,343	38,266	937,609	..	..	..
Other	275,184	44,968	..	121,897	86,853	21,466	..	231	..	..	1,547	1,081	649	105	..	13,270	13,270	..	..	..
Total Maranoa ..	1,910,196	143,912	..	235,743	1,475,146	55,395	..	575	1	..	8,113	3,712	3,148	162	899,343	51,536	950,879	..	..	..
Total South-Western	240,824	30,907	..	136,969	200	72,748	..	168	..	..	1,034	1,079	877	114	..	7,265	7,265	..	..	..
Total South Queensland	*161,729,831*	*5,445,499*	*5,542*	*5,262,971*	*134,656,243*	*8,191,334*	*8,168,242*	*22,816*	*44*	*54*	*536,104*	*179,270*	*177,722*	*206*	*68,734,693*	*2,475,626*	*71,210,319*	*7,771,926*	*5,440*	*7,777,366*
Port Curtis Division.																				
Banana	255,544	13,904	..	15,099	225,446	1,095	..	62	..	..	1,015	555	579	163	..	6,644	6,644	..	..	..
Gladstone	4,597,081	173,741	..	107,281	4,222,261	83,714	10,084	540	1	..	18,519	7,394	7,551	177	2,473,776	73,433	2,547,209	..	..	..
Monto	4,206,699	123,198	..	91,322	3,970,530	16,849	4,800	440	1	..	16,238	5,478	6,422	194	2,564,512	58,440	2,622,952	..	..	..
Mount Morgan ..	4,999,910	132,224	270	176,539	4,640,279	46,966	3,632	640	2	..	18,076	6,744	7,661	201	3,312,062	63,031	3,375,093	..	254	254
Rockhampton ..	4,063,457	252,782	..	195,429	3,230,553	351,795	32,898	686	1	..	16,341	7,600	8,764	170	1,863,397	106,310	1,969,707	..	..	..
St. Lawrence ..	43,277	17,983	..	14,025	3,300	7,969	..	26	..	..	255	136	57	111	..	5,638	5,638	..	..	..
Taroom	45,643	4,936	..	14,484	26,223	..	..	22	..	..	189	73	98	174	..	1,926	1,926	..	..	..
Total Port Curtis..	18,211,611	718,768	270	614,179	16,318,592	508,388	51,414	2,416	5	..	70,633	27,980	31,132	185	10,213,747	315,422	10,529,169	..	254	254
Total Central-Western	400,326	83,042	..	246,900	..	70,384	..	335	..	..	2,503	1,829	1,200	92	..	21,658	21,658	..	..	..
Total Far Western ..	101,967	13,653	..	77,794	230	10,290	..	105	..	..	560	428	445	103	..	2,913	2,913	..	..	..
Total Cent. Queensland	*18,713,904*	*815,463*	*270*	*938,873*	*16,318,822*	*589,062*	*51,414*	*2,856*	*5*	..	*73,696*	*30,237*	*32,777*	*180*	*10,213,747*	*339,993*	*10,553,740*	..	*254*	*254*
Edgecumbe Division.																				
Ayr	157,214	9,250	..	101,070	700	46,194	..	323	..	..	905	650	519	101	..	2,453	2,453	..	..	..
Bowen	111,197	35,702	300	35,660	2,730	36,205	600	145	..	..	711	609	370	84	..	9,485	9,485	..	140	140
Cape River ..	15,620	8,947	..	6,643	..	30	..	17	..	..	98	46	55	108	..	3,506	3,506	..	..	..
Charters Towers ..	123,120	24,679	..	18,729	8,120	71,592	..	73	..	..	734	405	349	108	..	6,820	6,820	..	..	..
Collinsville ..	21,608	5,410	..	3,950	..	12,248	..	13	..	..	110	100	54	103	..	1,176	1,176	..	..	..
Mackay	1,591,079	290,740	1,080	421,080	652,012	223,307	2,860	1,234	1	..	7,655	5,819	4,182	118	477,256	110,636	587,892	..	910	910
Proserpine ..	154,351	29,966	150	61,158	49,842	13,235	..	213	..	..	871	717	419	97	..	12,037	12,037	..	130	130
Ravenswood ..	5,463	2,308	..	2,057	..	1,098	..	11	..	..	32	54	11	64	..	772	772	..	..	..
Townsville ..	330,628	26,482	..	30,507	1,500	271,439	700	107	..	..	1,400	1,036	557	136	..	8,693	8,693	..	..	..
Total Edgecumbe..	2,510,280	433,484	1,530	680,854	714,904	675,348	4,160	2,136	1	..	12,516	9,436	6,516	114	477,256	155,578	632,834	..	1,180	1,180
Rockingham Division.																				
Atherton	6,228,552	159,192	10,500	155,860	5,687,337	193,841	21,822	559	2	..	17,237	5,819	5,757	270	4,181,049	63,007	4,244,056	..	10,900	10,900
Cairns	332,635	10,085	200	103,755	24,233	189,084	5,278	314	..	..	1,466	755	505	150	..	3,992	3,992	..	150	150
Cardwell	80,385	3,910	..	40,557	20,128	15,790	..	134	..	..	406	279	230	117	..	1,855	1,855	..	..	..
Chillagoe	100	..	..	100	..	..	..	2	..	..	1	..	..	100	..	..	..	..	..	..
Douglas	313,728	6,958	..	22,751	241,622	42,397	..	84	1	..	861	526	283	226	174,987	2,581	177,568	..	..	..
Herberton ..	837,367	33,755	..	32,991	756,751	13,870	..	111	1	..	2,935	1,113	768	207	440,171	14,912	455,083	..	..	..
Ingham	119,514	10,105	..	74,367	..	27,742	7,300	240	1	..	722	401	325	106	10,914	4,142	15,056	..	..	..
Innisfail	251,069	9,452	50	113,230	20,115	91,644	16,578	360	1	..	1,266	755	463	124	38,296	4,233	42,529	..	40	40
Mareeba	352,542	10,367	..	30,172	274,053	18,330	19,620	98	1	..	1,135	652	797	197	130,259	2,945	133,204	..	..	..
Total Rockingham	8,515,892	243,824	10,750	573,783	7,024,239	592,698	70,598	1,902	7	..	26,029	10,300	9,128	234	4,975,676	97,667	5,073,343	..	11,090	11,090
Total Peninsula ..	15,004	3,208	..	5,969	20	5,807	..	14	..	..	91	61	42	99	..	1,072	1,072	..	..	..
Total North-Western	162,380	11,530	..	95,782	..	52,068	..	128	..	..	986	692	490	97	..	3,449	3,449	..	..	..
Total North Queensland	*11,203,556*	*692,046*	*12,280*	*1,359,388*	*7,739,163*	*1,325,921*	*74,758*	*4,180*	*8*	..	*39,622*	*20,489*	*16,176*	*186*	*5,452,932*	*257,766*	*5,710,698*	..	*12,270*	*12,270*
Grand Total, 1936 ..	191,647,291	6,953,008	18,092	7,561,232	158,714,228	10,106,317	8,294,414	29,852	57	54	649,422	229,996	226,675	218	84,401,372	3,073,385	87,474,757	7,771,926	17,964	7,789,890
Grand Total, 1935 ..	266,589,384	7,184,749	200	6,605,079	233,611,828	9,476,707	9,710,821	26,618	56	58	732,002	186,764	*b*	290	115,703,863	3,420,848	119,124,711	10,018,618	170	10,018,788
Increase, 1936 ..	..	..	17,892	956,153	..	629,610	..	3,234	1	..	..	43,232	..	..	..	..	..	..	17,794	..
Decrease, 1936 ..	74,942,093	231,741	..	..	74,897,600	..	1,416,407	..	..	4	82,580	..	..	72	31,302,491	347,463	31,649,954	2,246,692	..	2,228,898

a The figures for factory production are for the year ended 30th June, 1937, and are complete. The rest of the table is compiled from returns sent in by farmers for the year 1936, and may be somewhat incomplete.

b Not available on a comparable basis.

NOTE.—The names of the Divisions have been adjusted since last year. For the Petty Sessions Districts in each, *see* Table No. 31.

Table No. 5.

CLASSIFICATION OF HOLDINGS, COMPRISING FREEHOLD LAND USED FOR AGRICULTURAL AND/OR DAIRYING PURPOSES, IN THE VARIOUS DIVISIONS OF QUEENSLAND FOR THE YEAR 1935.

Division.	1 and under 50.	50 and under 100.	100 and under 500.	500 and under 1,000.	1,000 and under 5,000.	5,000 and under 10,000.	10,000 and under 20,000.	20,000 and under 50,000.	50,000 and over.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Moreton	2,456	1,759	4,875	638	236	..	..	..	..	9,964
Wide Bay	789	841	4,459	780	345	5	5	..	..	7,224
Downs	554	495	3,008	936	538	21	11	..	..	5,563
Maranoa	12	6	64	67	143	16	6	1	..	315
South-Western ..	27	2	3	2	1	1	..	..	..	36
Port Curtis	275	80	676	277	179	10	4	1	..	1,502
Central-Western ..	17	1	6	4	14	1	..	1	..	44
Far-Western	7	..	2	..	1	..	..	..	..	10
Edgecumbe	447	525	1,990	190	50	3	1	..	..	3,206
Rockingham	404	842	1,668	72	7	2	..	..	..	2,995
Peninsula	42	63	121	10	2	..	..	..	..	238
North-Western ..	26	2	5	1	4	..	..	..	..	38
Total No. of Holdings	5,056	4,616	16,877	2,977	1,520	59	27	3	..	31,135
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Moreton	50,440	132,694	1,064,552	433,810	386,609	..	..	..	..	2,068,105
Wide Bay	20,748	64,216	1,054,328	536,114	511,646	29,723	62,859	..	..	2,279,634
Downs	14,639	35,667	775,939	627,284	965,935	136,606	153,212	..	..	2,709,282
Maranoa	384	410	19,175	48,061	282,491	107,058	78,000	25,000	..	560,579
South-Western ..	143	169	555	1,684	1,600	5,535	..	..	..	9,686
Port Curtis	5,629	5,722	176,960	196,490	304,290	67,471	52,680	42,000	..	851,242
Central-Western ..	144	87	2,178	2,685	30,119	5,120	..	20,000	..	60,333
Far-Western	24	..	320	..	2,010	..	..	..	..	2,354
Edgecumbe	10,325	41,546	395,095	130,872	86,266	22,290	12,146	..	..	698,540
Rockingham	10,856	61,369	299,496	47,370	14,922	11,460	..	..	..	445,473
Peninsula	1,199	4,982	24,682	6,329	2,504	..	..	..	..	39,696
North-Western ..	225	168	1,280	960	13,793	..	..	..	..	16,426
Total Area of Holdings	114,756	347,030	3,814,560	2,031,659	2,602,185	385,263	358,597	87,000	..	9,741,350

The above figures include only those holdings engaged in Agriculture and/or Dairying, purely Pastoral Holdings not being covered.

(*Note.—These Classifications were last made in 1935.*)

Table No. 6.

CLASSIFICATION OF HOLDINGS, COMPRISING FREEHOLD, LEASED, AND CROWN LAND, USED FOR AGRICULTURAL AND/OR DAIRYING PURPOSES, IN THE VARIOUS DIVISIONS OF QUEENSLAND FOR THE YEAR 1935.

Division.	1 and under 50.	50 and under 100.	100 and under 500.	500 and under 1,000.	1,000 and under 5,000.	5,000 and under 10,000.	10,000 and under 20,000.	20,000 and under 50,000.	50,000 and over.	Total.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Moreton	2,519	1,762	4,882	656	254	..	..	..	..	10,073
Wide Bay	808	838	4,605	904	472	15	6	1	..	7,649
Downs	566	510	3,019	1,066	675	36	20	..	..	5,892
Maranoa	11	7	50	59	187	28	7	2	..	351
South-Western ..	33	2	4	1	2	1	..	..	2	45
Port Curtis	378	117	1,190	591	479	27	13	6	1	2,802
Central-Western ..	26	2	11	10	31	1	2	1	..	84
Far-Western	7	..	2	..	1	..	..	..	..	10
Edgecumbe	479	538	2,046	208	64	3	1	..	..	3,339
Rockingham	412	870	1,826	81	11	2	..	..	..	3,202
Peninsula	40	66	126	10	4	..	1	..	..	247
North-Western ..	30	2	5	1	4	1	..	..	1	44
Total No. of Holdings	5,309	4,714	17,766	3,587	2,184	114	50	10	4	33,738
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Moreton	51,191	133,057	1,068,089	446,385	419,948	..	..	..	..	2,118,670
Wide Bay	21,088	67,610	1,109,185	630,602	748,727	102,897	77,208	25,000	..	2,782.317
Downs	15,042	36,623	781,219	717,179	1,221,823	234,125	276,222	..	..	3,282,233
Maranoa	371	483	15,616	42,022	396,413	194,943	88,400	48,000	..	786,248
South-Western ..	180	169	725	700	3,212	5,535	..	..	1,458,000	1,468,521
Port Curtis	7,990	8,517	336,259	414,486	861,056	183,154	174,497	180,967	59,550	2,226,476
Central-Western ..	230	167	3,550	6,728	81,429	5,120	30,289	20,000	..	147,513
Far-Western	24	..	320	..	2,010	..	..	..	..	2,354
Edgecumbe	10,992	44,786	410,360	144,089	121,275	22,290	12,146	..	..	765,938
Rockingham	11,096	63,498	329,332	53,326	23,686	11,460	..	..	..	492,398
Peninsula	1,173	5,187	25,466	6,348	7,335	..	13,970	..	..	59,479
North-Western ..	236	168	1,280	960	14,433	6,400	..	..	179,840	203,317
Total Area of Holdings	119,613	360,265	4,081,401	2,462,825	3,901,347	765 924	672,732	273,967	1,697,390	14,335,464

The above figures include only those holdings engaged in Agriculture and/or Dairying, purely Pastoral Holdings not being covered.

(*Note.—These Classifications were last made in 1935.*)

Table No. 7.

NUMBER OF FARMS GROUPED ACCORDING TO AREA UNDER CULTIVATION FOR THE YEAR 1934.

Petty Sessions District.	Under 5 Acres.		5 and under 20 Acres.		20 and under 50 Acres.		50 Acres and Over.		Totals.	
	No. of Farms.	Acres.	No. of Farms.	Acres.	No. of Farms.	Acres.	No. of Farms.	Acres.	No. of Farms.	Acres.
Allora	1	2	4	64	15	505	298	47,612	318	48,183
Atherton	38	95	91	981	70	2,275	160	15,375	359	18,726
Ayr	6	20	35	411	161	5,919	429	35,972	631	42,322
Banana	3	10	13	144	25	783	33	3,280	74	4,217
Beaudesert	33	96	227	2,606	234	6,930	71	4,794	565	14,426
Biggenden	44	117	144	1,471	85	2,370	11	691	284	4,649
Bowen	17	53	140	1,692	53	1,568	9	568	219	3,881
Brisbane (North)	187	466	407	4,296	66	1,727	2	238	662	6,727
Brisbane (South)	95	220	116	1,206	15	433	3	180	229	2,039
Bundaberg	73	203	313	3,739	478	14,961	148	18,266	1,012	37,169
Caboolture	78	216	104	830	13	404	..	..	195	1,450
Cairns	23	58	87	1,070	190	6,496	350	35,050	650	42,674
Cardwell	15	46	34	393	104	4,031	115	7,786	268	12,256
Childers	9	26	40	489	64	2,274	113	13,062	226	15,851
Chinchilla	10	26	30	315	33	978	28	2,369	101	3,688
Cleveland	49	154	243	2,530	21	542	..	..	313	3,226
Clifton	2	7	7	99	16	610	514	97,894	539	98,610
Condamine	5	13	32	354	32	939	32	3,765	101	5,071
Crow's Nest	2	4	57	725	155	5,254	167	14,730	381	20,713
Dalby	2	6	57	630	117	3,830	252	37,548	428	42,014
Douglas	4	15	39	500	76	2,659	78	7,502	197	10,676
Dugandan	12	32	88	1,105	321	10,980	39	9,606	560	21,723
Eidsvold	6	15	42	467	63	2,110	47	4,025	158	6,617
Esk	10	28	45	558	48	1,545	30	2,174	133	4,305
Gatton	1	2	54	749	237	8,056	191	14,296	483	23,103
Gayndah	25	62	135	1,615	226	7,590	147	12,530	533	21,797
Gin Gin	20	44	67	847	106	3,551	96	7,716	289	12,158
Gladstone	99	253	193	1,963	48	1,357	13	997	353	4,570
Goodna	5	14	20	206	3	78	1	156	29	454
Gympie	441	1,076	534	5,197	128	3,613	17	1,105	1,120	10,991
Harrisville	6	17	57	782	208	7,138	121	9,530	392	17,467
Ingham	7	19	62	736	133	4,503	301	27,160	503	32,418
Inglewood	..	..	12	157	36	1,267	69	8,016	117	9,440
Innisfail	1	1	24	334	253	9,114	341	27,495	619	36,944
Ipswich	14	34	71	828	58	1,593	22	1,495	165	3,950
Kilcoy	20	57	60	640	61	1,894	13	1,022	154	3,613
Killarney	7	19	17	172	39	1,328	138	17,966	201	19,485
Laidley	3	8	37	496	195	6,859	203	15,333	438	22,696
Logan	57	165	313	3,699	79	1,958	2	168	451	5,990
Lowood	..	..	10	154	178	5,956	109	7,443	297	13,553
Mackay	45	130	172	2,149	622	21,779	879	81,748	1,718	105,806
Marburg	3	10	38	493	153	5,389	45	2,910	239	8,802
Mareeba	63	179	155	1,486	32	930	3	159	253	2,754
Maroochy	250	900	698	6,629	136	3,750	15	900	1,099	12,179
Maryborough	65	196	277	3,148	148	4,137	18	1,110	508	8,591
Mitchell	..	..	2	17	4	117	18	2,033	24	2,167
Monto	13	40	98	1,115	167	5,496	151	13,189	429	19,840
Mount Morgan	28	76	236	2,662	365	11,635	362	37,612	991	51,985
Nanango	18	54	106	1,259	247	8,516	457	44,606	828	54,435
Oakey: Cooyar	4	10	15	175	51	1,617	53	3,786	123	5,588
Oakey: Oakey	10	32	30	375	143	4,985	624	104,017	807	109,409
Pittsworth	..	..	9	111	46	1,593	478	106,976	533	108,680
Proserpine	2	7	68	881	182	5,978	114	8,980	366	15,846
Redcliffe	55	162	181	2,024	51	1,388	3	178	290	3,752
Rockhampton	200	502	311	3,166	107	3,025	22	1,750	640	8,443
Roma	13	34	41	492	52	1,716	138	24,889	244	27,131
Rosewood	5	16	56	749	184	5,914	90	6,197	335	12,876
Southport	149	375	253	2,426	59	1,684	9	655	470	5,140
Stanthorpe	37	121	456	5,525	264	7,109	16	1,199	773	13,954
Texas	5	17	27	315	18	605	13	1,345	63	2,282
Tiaro	56	138	127	1,383	77	2,300	15	1,047	275	4,868
Toogoolawah	8	21	57	683	124	4,305	93	7,772	282	12,781
Toowoomba: Helidon	2	8	25	350	135	4,506	31	2,075	193	6,939
Toowoomba: Toowoomba	34	93	123	1,425	145	4,708	366	50,197	668	56,423
Warwick	9	31	64	758	102	3,415	450	67,784	625	71,988
Wienholt	13	37	132	1,658	425	14,587	500	42,328	1,070	58,610
Woodford	69	162	127	1,255	30	799	2	116	228	2,332
Wynnum	20	40	49	561	8	217	..	..	77	818
All Other Districts	193	470	235	2,263	84	2,394	33	3,203	545	8,330
Total	2,799	7,560	8,229	90,783	8,604	280,572	9,811	1,133,676	29,443	1,512,591

(Note.—This Classification was made last in 1934).

Table No. 8.

ACREAGE AND VALUE OF ALL AGRICULTURAL CROPS FOR THE YEARS 1935 AND 1936.

—	1935.		1936.	
	Acres.	Value.	Acres.	Value.
		£		£
Grain crops	410,365	1,309,356	479,525	1,306,614
Green forage	379,651	810,650	429,782	967,000
Hay and straw	71,309	609,271	62,758	459,480
Root crops	18,520	314,051	19,812	277,168
Sugar-cane	314,700	7,073,049	338,686	8,297,838
Fruit (including Vines)	31,163	947,182	31,635	937,277
All other	108,982	1,316,606	144,225	1,311,623
Total	1,334,690	12,380,165	1,506,423	13,557,000

Table No. 9.

IRRIGATION—AREA AND PRINCIPAL CROPS IRRIGATED DURING THE YEAR 1936.

Petty Sessions District.	Number of Irrigators.	Acres Irrigated.	Principal Crops Irrigated.						Source of Water Supply.	Power Employed.	How Applied to Land.
			Sugar-cane.	Fruit and Vegetables.	Cotton.	Tobacco.	Green Fodder	Grain.			
			Acres.	Acres.	Acres.	Acres.	Acres.	Acres.			
Ayr	588	28,124	28,030	63	..	18	6	7	Underground delta, river, spears, wells	Windmill, gas, oil, electric, and steam engines	Gravitation, pumping
Banana	23	831	..	26	452	..	335	18	River	Steam and oil engines ..	Gravitation, pumping
Bowen	138	1,074	55	827	8	83	95	6	Subterranean stream, river, wells	Windmills, oil and gas engines	Gravitation, pumping
Brisbane (North)	64	233	..	216	..	..	17	..	River, creeks, wells, lagoons, town supply	Electric, gas, and oil engines	Spray lines, gravitation
Brisbane (South)	72	317	..	294	..	..	23	..	River, creeks, springs, wells, town supply	Electric, gas, oil, and steam engines, windmills	Spray lines, gravitation
Bundaberg ..	56	13,628	13,510	21	..	20	77	..	Underground stream, spears, dams, wells	Electric, gas, and oil engines, windmills	Spray lines, gravitation
Cape River ..	11	59	..	56	..	..	..	3	River, wells ..	Oil engines, windmills ..	Gravitation, pumping
Charters Towers..	44	152	..	126	..	2	24	..	Rivers, wells ..	Gas, oil, and steam engines, windmills	Spray lines, gravitation
Cleveland ..	143	732	..	732	..	..	..	..	Wells, bores ..	Electric, gas, and oil engines	Spray lines, gravitation
Dugandan ..	61	609	..	458	..	..	151	..	Creeks, wells ..	Oil engines, windmills ..	Spray lines, gravitation
Emerald	5	48	..	46	..	..	2	..	River, wells ..	Oil engines, windmills ..	Pumping, gravitation
Gatton	60	745	..	495	..	..	247	3	Creeks, wells, and springs	Electric, oil, and suction gas engines	Spray lines, gravitation
Gayndah	24	250	..	241	..	1	8	..	River, creek.. ..	Oil, suction gas, windmill ..	Spray lines, gravitation
Gladstone ..	17	134	..	64	..	12	30	28	Creek and wells ..	Oil, steam, suction gas, windmills	Spray lines, gravitation
Goondiwindi ..	9	118	..	43	..	53	22	..	River, creeks, and dams	Oil and steam engines, windmills	Gravitation, pumping
Harrisville ..	30	371	..	97	..	..	227	47	Creeks and lagoons..	Oil engines, windmills ..	Spray lines, gravitation
Herberton ..	10	26	..	17	..	3	3	3	River, wells ..	Gas and oil engines, windmills	Gravitation, pumping
Hughenden ..	3	21	..	21	..	..	..	..	River, bores, and wells	Oil engines, windmill ..	Gravitation, pumping
Ingham	2	35	34	1	..	..	..	..	River, springs, and wells	Oil engines, windmills ..	Gravitation, pumping
Inglewood ..	13	310	..	5	..	261	44	..	Creeks and wells ..	Oil and steam engines ..	Spray lines, gravitation
Ipswich	10	52	..	14	..	..	38	..	River, creeks, and bores	Electric and oil engines ..	Spray lines, gravitation
Killarney ..	13	85	..	20	..	..	65	..	River	Electric and oil engines ..	Spray lines, gravitation
Laidley	31	456	..	59	..	..	397	..	Creek, bore	Electric and oil engines ..	Spray lines, gravitation
Logan	20	142	..	139	..	..	3	..	Creek, bores, dams, wells	Electric, gas, and oil engines	Spray lines, gravitation
Lowood	14	188	..	131	..	..	57	..	Creek	Electric and oil engines ..	Spray lines, gravitation
Mackay	49	1,685	1,676	9	..	..	..	..	Rivers, creeks, wells, spears	Gas and oil engines ..	Gravitation, pumping
Mareeba	56	288	..	30	..	258	..	..	Rivers, creeks, and springs	Gas and oil engines ..	Gravitation, pumping
Maroochy.. ..	16	30	..	28	..	..	2	..	Rivers, springs, dams, wells	Oil engines	Spray lines, gravitation
Mount Morgan ..	21	75	..	64	..	..	11	..	Creek, bore, wells ..	Gas and oil engines, windmills	Spray lines, gravitation
Proserpine ..	11	334	333	1	..	..	..	..	Rivers, creeks, lagoons, wells	Oil engines, windmills ..	Gravitation, pumping
Rockhampton ..	82	456	..	337	..	..	119	..	Lagoons, wells, and town supply	Electric, gas, and steam engines, windmills	Spray lines, gravitation
Stanthorpe ..	10	50	..	50	..	..	..	..	River, springs, well	Oil engines	Spray lines, gravitation
Texas	26	548	..	6	..	317	225	..	River, wells ..	Oil and gas engines ..	Spray lines, gravitation
Toowoomba ..	70	291	..	142	..	..	149	..	Creeks, wells, and bores	Gas and oil engines, windmills	Spray lines, gravitation
Townsville ..	41	288	53	194	..	..	40	1	River, wells ..	Electric, gas, and oil engines, windmills	Gravitation, pumping
Wynnum ..	19	61	..	61	..	..	..	..	Wells, town supply..	Electric and oil engines, windmills	Spray lines, gravitation
All Other Districts	185	1,249	32	496	..	5	682	34	Various	Various	Various
Total State ..	2,047	54,095	43,723	5,630	460	1,033	3,099	150			

Table No. 10.

IRRIGATION—RETURN FOR 10 YEARS.

Year.	Acres Irrigated.	Year.	Acres Irrigated.
1927	21,411	1932	31,409
1928	25,344	1933	29,363
1929	26,282	1934	34,138
1930	26,947	1935	44,283
1931	28,414	1936	54,095

Table No. 11.

WHEAT.—AREA AND PRODUCE OF WHEAT FOR GRAIN IN PETTY SESSIONS DISTRICTS.

Divisions and Petty Sessions Districts.	1934.			1935.			1936.		
	Area.	Produce.	Average per Acre.	Area.	Produce.	Average per Acre.	Area.	Produce.	Average per Acre.
MORETON.	Acres.	Bushels.	Bushels.	Acres.	Bushels.	Bushels.	Acres.	Bushels.	Bushels.
Brisbane	..	..	..	..	..	..	20	9	0·45
Caboolture	..	..	..	..	..	..	12	20	1·67
Crow's Nest	232	3,479	15·00	204	3,228	15·82	185	1,506	8·14
Dugandan	26	216	8·31	14	188	13·43	109	805	7·38
Gatton	60	1,440	24·00	53	378	7·13	293	365	1·25
Harrisville	..	..	..	120	1,893	15·78	104	420	4·04
Laidley	27	360	13·33	27	363	13·44	180	1,695	9·42
Oakey–Cooyar	49	774	15·80	104	723	6·95	250	726	2·90
Toowoomba–Helidon	..	..	..				76	105	1·38
All Other Districts	4	60	15·00	..	..	..	11	160	1·45
Total, Moreton	398	6,329	15·90	522	6,773	12·98	1,240	5,811	4·69
WIDE BAY.									
Biggenden	..	..	..	..	..	..	15	..	..
Eidsvold	..	..	..	..	..	..	21	..	..
Gayndah	107	410	3·83	..	..	..	32	..	..
Gympie	..	..	..	..	..	..	15	..	..
Kilkivan	..	..	..	..	..	..	38	170	4·47
Mount Perry	..	..	..	..	..	..	12	..	..
Nanango	146	2,003	13·72	187	2,637	14·10	300	662	2·21
Wienholt	369	4,035	10·93	182	1,563	8·59	261	2,007	7·69
All Other Districts	..	..	..	..	..	..	3	..	..
Total, Wide Bay	622	6,448	10·37	369	4,200	11·38	697	2,839	4·07
DOWNS.									
Allora	20,133	407,086	20·22	18,799	218,390	11·62	22,786	203,802	8·95
Chinchilla	193	2,780	14·40	19	341	17·95	842	5,211	6·19
Clifton	34,043	618,769	18·80	31,763	274,351	8·64	36,287	253,923	6·99
Condamine	587	8,980	15·30	877	7,194	8·20	1,279	7,446	5·82
Dalby	14,941	278,541	18·64	19,330	287,815	14·89	28,638	215,248	7·52
Goondiwindi	70	690	9·86	26	396	15·23	378	830	2·20
Inglewood	1,318	24,592	18·66	883	4,752	5·38	1,151	2,539	2·21
Killarney	5,848	109,473	18·72	6,891	92,732	13·46	7,251	60,353	8·32
Oakey	38,235	784,398	20·52	46,097	698,949	15·16	52,439	361,692	6·90
Pittsworth	56,233	1,054,941	18·76	65,470	625,198	9·55	75,650	549,004	7·25
Stanthorpe	..	..	..	..	..	..	8	..	..
Texas	261	1,916	7·34	210	3,379	11·33	474	1,518	3·20
Toowoomba	10,713	208,637	19·48	8,422	102,923	12·22	10,928	67,439	6·17
Warwick	18,325	366,706	20·01	16,643	182,504	10·97	19,349	95,957	4·96
Total, Downs	200,900	3,867,509	19·25	215,430	2,497,924	11·60	257,460	1,824,962	7·09
MARANOA.									
Mitchell	2,039	10,771	5·28	1,704	6,744	3·96	1,779	3,100	1·74
Roma	17,104	179,066	10·47	20,668	160,877	7·78	21,173	166,468	7·86
All Other Districts	..	..	..	..	..	..	5	..	..
Total, Maranoa	19,143	189,837	9·92	22,372	167,621	7·49	22,957	169,568	7·39
PORT CURTIS.									
Banana	325	3,650	11·23	578	7,954	13·76	702	7,918	11·28
Gladstone	..	..	..	..	..	..	15	..	..
Monto	..	..	..	..	..	..	101	300	2·97
Mount Morgan	340	2,388	7·02	360	5,844	16·23	460	4,530	9·85
Rockhampton	..	..	..	..	..	..	16	308	19·25
Total, Port Curtis	665	6,038	9·08	938	13,798	14·71	1,294	13,056	10·09
EDGECUMBE.									
Townsville	1	20	20·00	..	..	..	..	..	..
Total, State	221,729	4,076,181	18·38	239,631	2,690,316	11·23	283,648	2,016,236	7·11

Table No. 12.

WHEAT TREATED IN QUEENSLAND FLOUR MILLS DURING THE YEARS 1934–35 AND 1935–36.

Year.	Flour Mills.	Workers. *a*	Wheat Treated.	FLOUR MADE.		MEAL MADE.		BRAN AND POLLARD.	
				Tons.	Value.	Tons.	Value.	Bushels.	Value.
	No.	No.	Bushels.		£		£		£
1934–35	10	349	4,250,016	86,246	788,972	2,768	25,229	3,758,969	205,921
1935–36	10	352	4,163,449	86,142	857,399	3,430	34,177	3,533,254	223,908

a Average over whole year.

Table No. 13.

MAIZE.—AREA AND PRODUCE OF MAIZE FOR GRAIN IN PETTY SESSIONS DISTRICTS.

Divisions and Petty Sessions Districts.	1934.				1935.				1936.			
	No. of Growers.	Area.	Produce.	Average per Acre.	No. of Growers.	Area.	Produce.	Average per Acre.	No. of Growers.	Area.	Produce.	Average per Acre.
MORETON.		Acres.	Bushels.	Bushels.		Acres.	Bushels.	Bushels.		Acres.	Bushels.	Bushels.
Brisbane (North) ..	25	54	1,396	25·85	30	81	3,347	41·32	60	174	3,747	21·53
Brisbane (South) ..	3	9	276	30·67	3	39	838	21·49	2	6	90	15·00
Beaudesert	468	3,972	111,936	28·18	448	4,476	122,112	27·28	271	3,822	76,419	19·99
Caboolture	8	18	460	25·56	11	30	774	25·80	23	72	1,564	21·72
Cleveland	3	6	186	31·00	2	4	122	30·50	3	9	60	6·67
Crow's Nest	358	5,533	159,141	28·76	356	6,319	160,080	25·33	312	6,127	102,669	16·76
Dugandan	521	6,852	176,484	25·76	533	7,006	169,604	24·21	449	5,571	96,141	17·26
Esk	99	908	20,866	22·98	93	1,031	18,775	18·21	96	944	12,303	13·03
Gatton	429	5,601	150,602	26·89	341	4,824	88,714	18·39	383	5,202	72,921	14·02
Harrisville	355	3,593	86,768	24·15	353	3,943	87,917	22·30	295	3,161	49,060	15·52
Ipswich	139	834	20,418	24·48	113	648	13,990	21·59	88	688	13,071	18·93
Kilcoy	120	831	21,811	26·25	100	814	20,597	25·30	105	795	18,070	22·73
Laidley	403	6,491	171,392	26·40	385	6,011	138,933	23·11	342	5,790	101,095	17·46
Logan	201	473	11,036	23·33	160	376	9,076	24·14	179	423	8,507	20·11
Lowood	288	4,512	102,170	22·64	254	3,500	92,428	26·41	220	3,635	43,252	11·90
Marburg	233	2,470	48,350	19·57	219	2,078	30,269	14·57	176	1,500	20,493	13·66
Maroochy	81	176	4,218	23·97	90	283	7,114	25·14	135	507	12,936	25·52
Redcliffe	43	161	6,359	39·50	36	174	5,638	32·40	51	192	5,041	26·25
Rosewood	288	2,633	46,568	17·69	264	2,601	41,937	16·12	221	2,028	29,959	14·77
Southport	125	366	10,846	29·63	163	555	16,545	29·81	146	560	15,175	27·10
Toogoolawah	256	3,277	92,158	28·12	224	2,979	73,582	24·70	210	2,566	41,151	16·04
Woodford	109	489	9,759	19·96	98	528	14,080	26·67	52	271	6,197	22·87
Wynnum	2	2	50	25·00	1	1	20	20·00	1	1	..	..
Oakey–Cooyar	107	1,213	29,386	24·23	100	1,238	30,972	25·02	107	1,559	26,857	17·23
Toowoomba–Helidon ..	172	1,287	23,841	18·52	169	1,074	18,467	17·19	153	1,047	12,434	11·87
Total, Moreton ..	4,836	51,761	1,306,477	25·24	4,546	50,613	1,165,931	23·04	4,080	46,650	769,212	16·49
WIDE BAY.												
Biggenden	127	578	14,742	25·51	110	411	10,613	25·82	142	733	10,439	14·24
Bundaberg	117	344	9,049	26·31	95	294	6,578	22·37	107	345	5,063	14·68
Childers	3	22	235	10·68	5	18	301	16·72	13	45	672	14·93
Eidsvold	73	401	7,761	19·35	48	274	2,857	10·43	53	440	2,009	4·57
Gayndah	278	2,230	51,216	22·97	190	1,657	29,819	18·00	223	2,393	18,470	7·72
Gin Gin	68	269	4,764	17·71	54	168	3,412	20·31	69	347	3,997	11·52
Gympie	265	1,657	55,754	33·65	190	1,300	48,787	37·53	374	2,002	56,603	28·27
Kilkivan	50	385	11,141	28·94	34	260	7,205	27·71	42	359	5,499	15·32
Maryborough	47	108	2,191	20·29	40	81	1,807	22·31	53	119	2,026	17·03
Mount Perry	16	36	1,062	29·50	11	20	436	21·80	13	28	269	9·61
Nanango	680	14,461	451,565	31·23	627	14,103	351,285	24·91	740	20,101	381,890	19·00
Tiaro	113	458	11,288	24·65	82	345	8,221	23·83	96	353	6,523	18·48
Wienholt	755	15,924	462,049	29·02	758	15,405	360,195	23·38	863	20,323	375,471	18·47
Total, Wide Bay ..	2,592	36,873	1,082,817	29·37	2,244	34,336	831,516	24·22	2,788	47,588	868,931	18·26
DOWNS.												
Allora	206	5,182	142,345	27·47	211	5,558	115,916	20·86	229	7,660	115,603	15·09
Chinchilla	25	209	3,631	17·37	6	80	1,284	16·05	27	350	1,310	3·74
Clifton	320	10,101	239,161	23·68	310	9,339	176,325	18·88	348	12,372	182,325	14·74
Condamine	3	55	880	16·00	5	69	1,170	16·96	8	90	1,253	13·92
Dalby	92	873	15,793	18·09	123	1,207	23,876	19·78	117	1,835	9,272	5·05
Goondiwindi	1	3	36	12·00	1	5	100	20·00	3	12	80	6·67
Inglewood	18	197	2,237	11·36	16	213	2,150	10·09	11	223	333	1·49
Killarney	157	5,443	243,418	44·72	157	5,926	136,480	23·03	161	7,011	99,937	14·25
Oakey	484	8,134	217,445	26·73	452	7,370	160,725	21·81	363	7,856	75,292	9·58
Pittsworth	143	2,610	52,027	19·93	154	3,020	40,703	13·48	114	2,578	20,862	8·09
Stanthorpe	19	71	1,420	20·00	16	60	1,017	16·95	46	174	1,926	11·07
Texas	14	80	1,900	23·75	15	113	1,824	16·14	12	93	320	3·44
Toowoomba	443	5,926	155,950	26·32	334	4,824	101,762	21·09	333	6,068	80,458	13·26
Warwick	360	11,788	362,690	30·77	359	12,345	242,004	19·60	328	14,184	129,695	9·14
Total, Downs ..	2,285	50,672	1,438,933	28·40	2,159	50,129	1,005,336	20·05	2,100	60,506	718,666	11·88
MARANOA	16	110	1,170	10·64	18	108	651	6·03	17	86	503	5·85
PORT CURTIS.												
Banana	9	55	880	16·00	..	..	..	..	3	18	150	8·33
Gladstone	150	769	15,934	20·72	138	834	17,705	21·23	143	938	15,827	16·87
Monto	149	1,046	24,984	23·89	129	1,056	18,238	17·27	182	2,030	27,992	13·79
Mount Morgan	113	971	20,503	21·12	39	272	3,024	11·12	140	1,396	20,542	14·71
Rockhampton	171	967	16,511	17·07	125	806	12,909	16·02	143	775	13,278	17·14
St. Lawrence	6	17	370	21·76	5	12	114	9·50	8	33	719	21·79
Taroom	..	..	..	..	..	..	..	..	4	22	290	13·18
Total, Port Curtis ..	598	3,825	79,182	20·70	436	2,980	51,990	17·45	623	5,212	78,798	15·12
CENTRAL WESTERN ..	6	27	494	18·30	..	..	..	..	7	32	184	5·75
EDGECUMBE	41	93	2,083	22·40	32	138	959	6·95	74	193	2,158	11·18
ROCKINGHAM.												
Atherton	309	16,942	223,970	13·22	324	18,665	438,891	23·51	349	20,397	697,020	34·17
All Other Districts ..	33	238	5,118	21·50	52	360	7,741	21·50	69	468	11,387	24·33
Total, Rockingham ..	342	17,180	229,088	13·33	376	19,025	446,632	23·48	418	20,865	708,407	33·95
PENINSULA	3	40	975	24·38	7	41	1,030	25·12	8	50	995	19·90
NORTH WESTERN ..	4	26	860	33·08	..	..	..	..	6	84	960	11·43
Total, State	10,723	160,607	4,142,079	25·79	9,818	157,370	3,504,045	22·27	10,121	181,266	3,148,814	17·37

Table No. 14.

BARLEY.—Area and Produce in Petty Sessions Districts.

Petty Sessions District.	Malting Grain.				Other Varieties Grain.			
	Acres.		Bushels.		Acres.		Bushels.	
	1935.	1936.	1935.	1936.	1935.	1936.	1935.	1936.
Allora	503	405	8,058	2,883	235	222	3,297	1,202
Clifton	1,981	1,039	31,013	7,465	421	369	5,286	3,343
Crow's Nest ..	34	10	394	..	..	36	..	31
Dalby	44	329	876	1,800	95	164	1,340	300
Inglewood	22	8	195	..	12	31	80	195
Killarney	56	25	798	48	97	120	1,370	132
Nanango	..	..	..	..	..	14	..	109
Oakey Cooyar ..	..	10	..	..	7	..	126	..
Oakey ..	217	359	2,330	2,689	260	207	2,994	2,096
Pittsworth	647	685	9,272	5,442	248	693	3,418	281
Texas	..	..	..	..	28	96	172	300
Toowoomba ..	701	673	10,821	3,891	291	134	5,052	438
Warwick	77	707	1,086	2,622	372	231	3,117	1,517
All Other Districts..	3	69	48	462	29	16	..	132
Total State ..	4,285	4,319	64,891	27,302	2,095	2,333	26,475	10,076

Table No. 15.

COTTON—Area and Produce in Petty Sessions Districts.

Petty Sessions District.	Area.					Produce (Unginned).				
	1932.	1933.	1934.	1935.	1936.	1932.	1933.	1934.	1935.	1936.
	Acres.	Acres.	Acres.	Acres.	Acres.	Lb.	Lb.	Lb.	Lb.	Lb.
Banana	1,574	1,155	1,374	1,593	960	565,087	708,510	1,354,872	541,693	431,404
Biggenden	44	723	173	288	285	13,345	207,601	60,004	106,449	85,301
Bowen	11	13	23	17	31	5,617	920	22,681	6,434	5,078
Bundaberg	4	141	27	38	22	850	29,982	1,290	10,716	3,541
Childers	49	153	9	68	61	6,940	95,835	3,060	26,881	17,949
Chinchilla	30	181	2	112	26	300	15,947	300	28,457	4,395
Clermont	2	101	128	71	81	290	7,581	31,326	4,170	15,627
Clifton	..	..	..	30	..	..	..	..	7,159	..
Condamine	50	97	172	74	294	10,142	44,997	25,423	35,059	102,625
Dalby	90	99	18	101	100	5,460	38,447	9,700	26,334	29,176
Dugandan	196	197	31	57	50	80,814	63,538	11,286	22,708	23,067
Eidsvold	1,835	1,763	1,607	1,842	1,504	136,757	436,397	983,307	559,982	380,924
Emerald	19	94	51	133	14	3,544	21,338	15,495	15,400	3,199
Esk	113	26	41	57	27	10,925	7,456	9,189	35,706	8,607
Gatton	317	387	224	273	249	107,143	141,967	132,231	119,214	108,699
Gayndah	2,874	3,820	2,860	4,261	5,533	284,119	1,086,766	2,626,323	1,803,475	1,382,383
Gin Gin	113	225	90	12	59	29,998	74,350	14,998	8,315	18,982
Gladstone	391	849	328	278	262	99,086	211,518	270,642	79,186	81,801
Harrisville	168	159	52	14	17	62,162	66,185	22,714	5,127	8,053
Ipswich	31	89	32	120	43	8,407	33,767	17,308	35,179	18,932
Kilkivan	58	118	32	49	45	8,119	35,029	22,802	13,663	16,323
Laidley	209	209	157	103	98	41,578	67,547	40,928	38,523	46,905
Lowood	290	180	106	37	69	59,248	58,837	32,818	23,515	33,255
Mackay	27	54	2	113	81	22,301	7,269	500	22,431	13,389
Marburg	112	67	59	14	25	25,510	27,652	11,625	5,967	12,788
Mareeba	*	40	58	146	115	*	4,446	21,225	39,628	8,512
Maryborough ..	5	85	11	58	5	813	24,014	856	11,636	1,389
Monto	5,272	10,752	5,966	7,898	8,357	1,498,257	2,559,172	5,736,304	3,044,948	2,509,953
Mount Morgan ..	12,777	41,134	27,226	33,313	39,725	2,617,528	10,297,069	13,973,397	13,051,960	12,810,172
Mount Perry ..	..	76	35	43	45	..	19,996	27,171	22,628	24,177
Nanango	109	240	60	189	298	8,357	66,652	15,437	38,973	63,483
Rockhampton ..	1,209	2,439	1,009	1,484	1,939	323,495	433,689	926,831	436,670	293,594
Roma	584	498	418	334	253	49,805	149,645	112,341	49,715	48,906
Rosewood	102	179	37	22	56	14,445	61,039	4,037	5,384	27,742
St. Lawrence ..	30	129	44	45	26	17,221	27,132	9,954	15,438	5,406
Springsure	98	96	45	109	76	3,663	10,599	4,941	10,401	12,503
Tiaro	8	40	8	14	19	1,500	14,720	2,475	5,335	5,961
Toogoolawah ..	131	68	50	22	72	42,194	14,605	22,102	14,154	37,580
Toowoomba-Helidon	16	15	16	22	49	1,427	3,860	7,750	14,162	26,317
Wienholt	894	1,078	670	1,369	1,105	73,260	444,965	306,319	420,564	451,760
All Other Districts	153	434	146	124	124	30,409	97,267	32,217	22,079	18,742
Total State ..	29,995	68,203	43,397	54,947	62,200	6,270,116	17,718,306	26,924,179	29,785,418	19,198,600

* Included in Atherton Petty Sessions District.

Note.—Approximately 3,400 persons supplied seed cotton to the ginneries in 1936.

Table No. 16.

SUGAR CANE—Growers and Areas, 1936.

Division and District.	Cane Growers.		Area of Cane Grown.				
	With less than five Acres of Cane.	Total.	For Plants.	Standover and Unproductive.	Cut for Crushing.	Total. *a*	Total per Grower.
	No.	No.	Acres.	Acres.	Acres.	Acres.	Acres.
Rockingham—							
Cairns and Douglas	10	783	1,741	4,909	39,373	46,023	58·8
Cardwell, Ingham, and Innisfail	8	1,450	3,317	9,853	64,809	77,979	53·8
Total, Rockingham	18	2,233	5,058	14,762	104,182	124,002	55·5
Edgecumbe—							
Ayr and Townsville	2	614	1,143	14,499	21,459	37,101	60·4
Proserpine and Bowen	7	353	489	3,136	8,898	12,523	35·5
Mackay and St. Lawrence	73	1,952	3,500	21,792	66,877	92,169	47·2
Total, Edgecumbe	82	2,919	5,132	39,427	97,234	141,793	48·6
Wide Bay—							
Bundaberg and Gin Gin	65	1,159	600	15,878	24,618	41,096	35·5
Biggenden, Childers, Maryborough, Tiaro, and Gympie (Mary Valley)	107	847	455	8,825	15,214	24,494	28·9
Total, Wide Bay	172	2,006	1,055	24,703	39,832	65,590	32·7
Moreton—							
Cleveland, Logan, and Southport	41	184	39	478	691	1,208	6·6
Maroochy, Redcliffe, and Gympie (Coastal)	107	442	119	1,995	3,979	6,093	13·8
Total, Moreton	148	626	158	2,473	4,670	7,301	11·7
Total, Queensland	420	7,784	11,403	81,365	245,918	338,686	43·5

a Exclusive of 6,316 acres cut for green fodder in the State; 5,151 acres of which were in the sugar districts listed above.

Table No. 17.

SUGAR—Production of Cane and Raw Sugar, 1936.

Division and District.	On Farms in each District.				In Mills in each District.			
	Cane Grown.	Cane per Acre.	Estimated Raw Sugar Yield. *a*	Sugar per Acre.	Cane Crushed.	Raw Sugar Produced. *a*	Cane for each ton of Sugar.	Molasses Produced.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Gallons.
Rockingham—								
Cairns and Douglas	1,037,054	26·34	139,605	3·55	1,045,996	140,788	7·43	4,574,404
Cardwell, Ingham, and Innisfail	1,421,412	21·93	201,707	3·11	1,363,895	192,898	7·07	5,724,127
Total, Rockingham	2,458,466	23·60	341,312	3·28	2,409,891	333,686	7·22	10,298,531
Edgecumbe—								
Ayr and Townsville	638,956	29·78	99,772	4·65	687,531	107,398	6·40	2,766,364
Proserpine and Bowen	127,921	14·38	19,414	2·18	151,750	23,030	6·59	508,900
Mackay and St. Lawrence	1,150,839	17·21	175,065	2·62	1,127,010	171,449	6·57	4,342,195
Total, Edgecumbe	1,917,716	19·72	294,251	3·03	1,966,291	301,877	6·51	7,617,459
Wide Bay—								
Bundaberg and Gin Gin	488,273	19·83	66,348	2·70	512,922	69,640	7·37	2,199,100
Biggenden, Childers, Maryborough, Tiaro, and Gympie (Mary Valley)	227,323	14·94	31,559	2·07	202,674	28,267	7·17	914,773
Total, Wide Bay	715,596	17·97	97,907	2·46	715,596	97,907	7·31	3,113,873
Moreton—								
Cleveland, Logan, and Southport	10,559	15·28	1,292	1·87	10,490	1,282	8·18	28,200
Maroochy, Redcliffe, and Gympie (Coastal)	68,234	17·15	9,914	2·49	68,303	9,924	6·88	297,258
Total, Moreton	78,793	16·87	11,206	2·40	78,793	11,206	7·03	325,458
Total, Queensland	5,170,571	21·03	744,676	3·03	5,170,571	744,676	6·94	21,355,321

a Raw Sugar Production is stated in tons of 94 net titre.

SUGAR DISTRICTS.—The divisions used are the standard statistical divisions (as used throughout this Report) with the following modifications:—

(1) Although actually in Port Curtis, St. Lawrence Petty Sessions District, being portion of the Mackay Sugar area, is included in Edgecumbe.

(2) The Mary Valley portion of Gympie Petty Sessions District is included in Wide Bay, the cane from this area having been crushed at Bauple Mill.

(3) The Coastal portion of Gympie District south of the City, though actually in Wide Bay, is included in Moreton, the cane from this area having been crushed at Nambour Mill.

Table No. 18.

SUGAR.—Five Years Summary for Divisions.

Statistical Division.	Year.	On Farms in each Division.			In Mills in each Division.		
		Area Cut for Crushing.	Cane Produced.	Cane per Acre.	Cane Crushed.	Raw Sugar Produced. *a*	Cane for each Ton of Sugar.
		Acres.	Tons.	Tons.	Tons.	Tons.	Tons.
Rockingham	1932	98,098	2,097,124	21·38	2,054,030	299,105	6·87
	1933	97,926	2,318,311	23·67	2,270,466	311,529	7·29
	1934	90,999	1,732,883	19·04	1,686,857	233,976	7·21
	1935	93,368	1,814,619	19·44	1,780,804	258,563	6·89
	1936	104,182	2,458,466	23·60	2,409,891	333,686	7·22
Edgecumbe	1932	82,365	1,240,689	15·06	1,283,783	191,166	6·72
	1933	85,936	1,689,359	19·66	1,737,204	249,738	6·96
	1934	87,490	1,721,133	19·67	1,767,159	269,801	6·55
	1935	90,103	1,496,601	16·61	1,530,416	233,897	6·54
	1936	97,234	1,917,716	19·72	1,966,291	301,877	6·51
Wide Bay	1932	20,475	147,436	7·20	146,947	15,896	9·24
	1933	39,233	559,949	14·27	558,533	64,182	8·70
	1934	36,422	765,729	21·02	763,926	100,309	7·62
	1935	39,715	810,229	20·40	810,229	104,386	7·76
	1936	39,832	715,596	17·97	715,596	97,907	7·31
Moreton	1932	4,108	61,121	14·88	61,610	7,860	7·84
	1933	5,059	99,503	19·67	100,919	13,110	7·70
	1934	3,515	51,635	14·69	53,438	7,075	7·55
	1935	5,329	98,986	18·57	28,986	13,234	7·48
	1936	4,670	78,793	16·87	78,793	11,206	7·03
Total, Queensland	1932	205,046	3,546,370	17·30	3,546,370	514,027	6·90
	1933	228,154	4,667,122	20·46	4,667,122	638,559	7·31
	1934	218,426	4,271,380	19·56	4,271,380	611,161	6·99
	1935	228,515	4,220,435	18·47	4,220,345	610,080	6·92
	1936	245,918	5,170,571	21·03	5,170,571	744,676	6·94

a In tons of 94 n.t.

Table No. 19.

MOLASSES.—Production and Disposal, 1936.

Statistical Division.	Molasses Produced.	Molasses Disposed of. *a*						
		To Distilleries.	As Stock Food.	As Manure.	In Furnaces.	In Ferment.	For Other Uses.	As Waste.
	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.	Gallons.
Rockingham	10,298,531	3,274,880	658,559	824,991	5,120,125	77,040	237,420	86,004
Edgecumbe	7,617,459	1,888,304	2,389,337	1,149,102	1,146,516	46,700	12,600	472,845
Wide Bay	3,113,873	777,280	1,139,188	1,237,330	88,200	10,000	..	1,477
Moreton	325,458	146,400	164,738	..	..	11,320	2,000	..
Total, Queensland, 1936	21,355,321	6,086,864	4,351,822	3,211,423	6,354,841	145,060	252,020	560,326

Five Years Summary—Queensland.

1932	14,984,649	2,796,120	2,988,905	1,414,338	6,182,769	*b*	108,122	1,402,483
1933	19,361,604	4,107,566	2,902,188	1,793,101	7,348,015	*b*	340,928	1,747,365
1934	17,262,794	4,573,037	3,035,598	2,227,905	5,339,489	104,552	444,680	1,162,715
1935	16,948,539	4,617,431	3,817,755	2,559,528	4,103,475	125,300	175,519	1,214,678
1936	21,355,321	6,086,864	4,351,822	3,211,423	6,354,841	145,060	252,020	560,326

a The difference between production and total disposals of molasses is accounted for by stocks carried over.
b Not available.

Table No. 20.

SUGAR-GROWING—SUMMARY.

Year.	Cane Growers.		Area of Cane Grown.			Production.					
	With less than 5 Acres of Cane.	Total.	Cut for Crushing.	Total under Cane. *b*	Total per Grower.	Cane.	Raw Sugar. *c*	Cane per Acre Cut.	Cane for each ton of Sugar.	Sugar per Acre Cut.	Value. of Cane Cut.
	No.	No.	Acres.	Acres.	Acres.	Tons.	Tons.	Tons.	Tons.	Tons.	£
1911–1915 *a*	*	*	95,837	146,799	*	1,537,880	179,107	16·05	8·57	1·87	1,591,405
1916–1920 *a*	*	*	94,042	162,921	*	1,711,354	200,840	18·20	8·52	2·14	2,985,826
1921–1925 *a*	*	*	151,933	225,962	*	2,668,161	346,776	17·56	7·69	2·28	5,945,796
1926–1930 *a*	729	7,255	209,132	282,513	38·94	3,465,545	486,187	16·57	7·13	2·32	6,935,120
1931–1935 *a*	493	7,395	222,689	306,298	41·42	4,147,921	591,021	18·63	7·02	2·65	7,086,777
1927	655	7,242	203,748	274,838	37·95	3,555,827	485,745	17·45	7·32	2·38	7,108,907
1928	647	7,149	215,674	283,476	39·65	3,736,311	520,620	17·32	7·18	2·41	7,209,778
1929	1,064	7,311	214,880	291,660	39·89	3,581,265	518,516	16·67	6·91	2·41	7,163,024
1930	543	7,228	222,044	296,070	40·96	3,528,660	516,783	15·89	6·83	2·33	7,040,415
1931	541	7,392	233,304	309,818	41·91	4,034,300	581,276	17·29	6·94	2·49	7,326,233
1932	553	7,231	205,046	291,136	40·26	3,546,370	514,027	17·30	6·90	2·51	6,852,717
1933	409	7,386	228,154	311,910	42·23	4,667,122	638,559	20·46	7·31	2·80	7,247,122
1934	513	7,426	218,426	303,926	40·93	4,271,380	611,161	19·56	6·99	2·80	6,934,764
1935	451	7,538	228,515	314,700	41·75	4,220,435	610,080	18·47	6·92	2·67	7,073,049
1936	420	7,784	245,918	338,686	43·51	5,170,571	*d* 744,676	21·03	6·94	3·03	8,286,000

* Not available. *a* Annual average. *b* Exclusive of area cut for fodder. *c* In tons of 94 N.T.

d The value at Mill of Raw Sugar produced in 1936 was £10,962,873, equal to £14 14s. 5d. a ton. The average price paid to Mills by the Sugar Board was £15 4s. 8d. at nearest Mill port.

Table No. 21.

SUGAR MILLS *a*, 1935–36.

Division.	Mills.	Workers During Period of Operation.	Value of—			
			Machinery and Plant.	Land and Buildings.	Output.	Production.
	No.	No.	£	£	£	£
Rockingham	10	1,729	4,709,188	558,922	4,270,554	907,294
Edgecumbe	12	1,535	2,063,982	288,699	3,560,796	750,466
Wide Bay	8	804	735,333	157,855	1,643,745	423,791
Moreton	3	145	180,019	13,590	223,930	69,506
Total, Queensland	33	4,213	7,688,522	1,019,066	9,699,025	2,151,057

FIVE YEARS SUMMARY.

1931–32	35	5,693	6,599,847	765,306	10,519,615	2,508,930
1932–33	33	5,191	6,625,262	806,574	9,531,404	1,978,093
1933–34	33	5,374	6,518,636	794,111	10,281,640	2,222,457
1934–35	33	4,585	6,705,397	762,997	9,533,760	2,087,196
1935–36	33	4,213	7,688,522	1,019,066	9,699,025	2,151,057

a Including Mill Tramways, but not including Refineries.

Table No. 22.

AUSTRALIAN SUGAR PRODUCTION.

Year.	Area Under Cultivation.	Area Harvested.	Production (Cane or Beet).	Raw Sugar Made. *a*	Raw Sugar as Percentage of Australian Total.
	Acres.	Acres.	Tons.	Tons.	Per cent.
QUEENSLAND (CANE SUGAR).					
1932	291,136	205,046	3,546,370	514,027	95·5
1933	311,910	228,154	4,667,122	638,559	94·9
1934	303,926	218,426	4,271,380	611,161	94·5
1935	314,700	228,515	4,220,435	610,080	93·6
1936	338,686	245,918	5,170,571	744,676	94·6
NEW SOUTH WALES (CANE SUGAR).					
1932	16,145	7,796	156,818	18,567	3·4
1933	16,929	10,015	230,918	28,809	4·3
1934	18,531	7,572	227,424	30,690	4·7
1935	20,394	10,416	280,472	36,463	5·6
1936	*b*	10,231	275,169	38,053	4·9
VICTORIA (BEET SUGAR).					
1932	3,155	3,155	36,740	5,701	1·1
1933	3,234	3,234	50,625	5,303	0·8
1934	3,062	3,062	40,788	4,998	0·8
1935	3,165	3,165	37,634	5,115	0·8
1936	3,475	3,475	31,079	4,180	0·5

a In tons of 94 N.T. *b* Not yet available.

Table No. 23.

SUGAR MILLS.

Number of Sugar Mill Companies to which advances have been made under—	
The Sugar Works Guarantee Acts	13
"*The Sugar Works Act of* 1911" (Babinda and South Johnstone)	2
"*The Sugar Works Act of* 1922" (Tully River Mill)	1
From Consolidated Revenue (North Eton and Racecourse)	2
From General Loan Fund	6
From Trust Funds	None

Number of Tramway Companies to which advances have been made under—	
The Sugar Works Guarantee Acts (Double Peak)	1
Under other conditions	None

Total amount of advances made to 31st December, 1936, under the Sugar Works Guarantee Acts—

	£	s.	d.	£	s.	d.
Marian Mill	39,000	0	0			
Mount Bauple	32,480	16	1			
Pleystowe	35,472	1	3			
Nerang River	19,998	18	10			
Gin Gin	50,000	0	0			
Plane Creek	65,000	0	0			
North Eton	18,200	0	0			
Proserpine	54,000	0	0			
Moreton	32,864	15	0			
Mulgrave	46,000	0	0			
Isis	38,636	0	0			
Mossman	66,300	0	0			
Johnstone	847	17	8			
				498,800	8	10
Under "*The Sugar Works Act of* 1911"—						
Babinda Mill	405,429	18	8			
South Johnstone	648,009	7	8			
				1,053,439	6	4
Under "*The Sugar Works Act of* 1922"—						
Tully River	..			795,221	0	0
From Consolidated Revenue—						
North Eton	26,000	0	0			
Racecourse	21,000	0	0			
				47,000	0	0
From General Loan Fund—						
North Eton Mill	62,965	18	4			
Mount Bauple	8,500	0	0			
Gin Gin	2,000	0	0			
Proserpine	128,265	9	4			
Moreton	14,350	0	0			
Mossman	14,071	14	0			
				230,153	1	8
Indebtedness at 31st December, 1936—						
Under "*The Sugar Works Act of* 1911"—						
Babinda Mill	..			..		
Under "*The Sugar Works Act of* 1922"—						
Tully River Mill	..			369,318	4	3
Under "*The South Johnstone, Gin Gin, North Eton, and Mount Bauple Sugar Works Act of* 1927"—						
South Johnstone Mill	206,658	4	4			
Gin Gin	15.854	19	9			
North Eton	29,955	7	2			
Mount Bauple	20,000	0	0			
				272,468	11	3
To General Loan Fund—						
Proserpine	..			72,278	7	8

Table No. 24.

ARROWROOT.

Year.	Area.	Production Tubers.	Value.	No. of Mills.	Workers during period of operation.	Tubers used.	Arrowroot Made.	Value.
	Acres.	Tons.	£		No.	Tons.	Tons.	£
1932	691	6,878	12,037	12	98	4,820	476	13,164
1933	797	9,950	13,432	14	101	8,908	907	23,200
1934	835	9,712	10,683	14	133	8,214	827	17,169
1935	860	10,239	10,239	14	107	7,161	719	12,779
1936	865	10,204	10,500	(*a*)	(*a*)	(*a*)	(*a*)	(*a*)

(*a*) Not yet available.

Table No. 25.

TOBACCO.—Area and Produce in Petty Sessions Districts.

Petty Sessions District.	Area.					Produce (Dried Leaf).				
	1932.	1933.	1934.	1935.	1936.	1932.	1933.	1934.	1935.	1936.
	Acres.	Acres.	Acres.	Acres.	Acres.	Lb.	Lb.	Lb.	Lb.	Lb.
Moreton—										
Brisbane (North) ..	1	4	..	..	..	150	1,480	..	..	..
Brisbane (South) ..	..	20	..	..	..	..	20,000	..	..	..
Caboolture	9	6	3	20	7	2,007	338	2,694	300	561
Gatton	..	2	..	..	*	..	500	..	..	20
Lowood	1	1	..	..	..	118	500	..	..	..
Rosewood	1	..	..	..	..	500	..	..	..	..
Wide Bay—										
Biggenden	1	..	..	..	..	487	..	..	..	..
Bundaberg	5	4	29	26	26	1,318	1,613	3,980	9,739	11,439
Gayndah	..	..	..	..	2	..	..	..	..	257
Gympie	..	9	..	..	..	..	4,530	..	..	..
Downs—										
Goondiwindi ..	10	..	..	..	51	16,000	..	..	..	18,820
Inglewood	227	258	234	337	270	151,340	187,940	82,131	143,835	217,000 *a*
Killarney	99	..	..	..	..	112.693	..	..	..	..
Stanthorpe	116	86	42	25	3	75,464	42,546	40,653	26 730	..
Texas	799	606	151	174	320	677,804	484,299	87,398	107,181	300,000 *a*
Warwick	2	..	..	..	..	2,240	..	..	..	..
Port Curtis—										
Gladstone	38	48	32	62	72	10,926	19,006	8,481	24,797	44,919
Rockhampton ..	..	2	..	1	..	..	415	..	387	..
Edgecumbe—										
Ayr	39	16	9	10	18	26,192	7,433	2,920	4,660	9,500
Bowen	195	58	76	139	156	44,792	25,060	71,506	70,228	68,692
Charters Towers ..	15	17	18	4	2	5,557	11,565	18,646	1,558	500
Collinsville	..	..	14	15	10	..	..	6,240	5,500	3,300
Mackay	76	75	25	87	163	46,017	63,271	88,052	60,621	80,000 *a*
Proserpine	1	..	..	..	..	1,550	..	..	..	..
Ravenswood ..	5	6	6	3	4	1,680	2,800	5,824	3,584	3,360
Townsville	189	228	110	99	119	76,353	55,043	88,896	24,840	59,463
Rockingham—										
Atherton	1,346	..	15	15	15	709,864	..	3,849	6,494	6,000
Cairns	58	168	30	20	..	19,265	43,385	4,710	4,422	..
Chillagoe	454	13	1	..	..	254,123	3,978	70	..	..
Herberton	72	131	18	18	21	33,557	54,632	3,246	4,649	7,595
Ingham	56	2	4	4	..	33,191	300	1,200	3,500	..
Innisfail	..	..	..	..	..	..	..	..	..	..
Mareeba	..	2,227	1,258	2,053	2,714	..	1,046,571	553,253	1,051,308	1,173,605 *a*
Peninsula—										
Cook	2	17	6	5	..	673	2,549	1,300	750	..
Total State ..	3,817	4,004	2,081	3,117	3,973	2,303,861	2,079,754	1,025,049	1,555,083	2,005,031

* Less than ½ acre.

a Partly based on estimates made by experts of Department of Agriculture and Stock.

Table No. 26.

GRAPES.—Area under Vines and Production of Grapes in Petty Sessions Districts.

Petty Sessions District.	Total Area under Vines.			Bearing Area.			Production.		
	1934.	1935.	1936.	1934.	1935.	1936.	1934.	1935.	1936.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres	Lb.	Lb.	Lb.
Banana	1	1	1	1	1	1	620	2,800	1,720
Brisbane (North)	310	286	244	282	256	221	412,943	398,371	427,091
Brisbane (South)	5	2	5	5	2	5	9,550	663	13,422
Caboolture	2	3	1	2	3	1	900	1,100	800
Cape River	1	1	3	1	1	2	2,542	8,214	6,154
Charleville	1	3	5	1	3	5	2,130	4,020	8,460
Charters Towers	18	14	20	18	14	19	41,819	38,517	43,696
Cleveland	5	2	3	3	2	3	4,702	2,000	3,788
Clifton	1	2	1	1	2	1	1,400	1,590	3,210
Condamine	2	6	4	1	6	4	1,876	2,850	1,825
Cunnamulla	1	2	2	1	2	2	1,350	4,050	2,357
Dalby	1	1	2	1	1	1	1,960	1,132	7,316
Eidsvold	..	1	2	..	1	1	..	1,100	480
Gatton	..	2	4	..	2	4	..	800	8,900
Gladstone	5	6	2	4	6	2	7,820	4,940	3,075
Goondiwindi	..	2	*	..	2	*	..	840	1,265
Gympie	2	3	15	2	1	10	1,400	530	15,839
Herberton	5	15	13	5	13	12	8,737	16,383	13,679
Laidley	3	2	1	3	2	1	4,900	1,420	1,700
Logan	5	3	5	4	3	4	4,890	5,606	4,298
Lowood	13	71	57	8	55	55	190,500	248,200	209,000
Mackay	1	1	2	1	1	2	1,015	2,250	2,152
Maryborough	11	7	8	10	7	8	10,681	8,590	5,363
Nanango	1	1	2	1	1	1	2,190	1,380	695
Oakey	5	7	3	5	7	3	14,173	14,471	7,369
Rockhampton	28	59	40	24	43	34	65,405	68,570	57,118
Roma	400	538	429	375	496	355	778,830	378,711	509,187
Stanthorpe	1,027	1,339	1,528	694	1,018	1,101	3,079,326	3,862,256	3,464,749
Tiaro	3	6	5	2	4	5	3,360	6,140	11,439
Toogoolawah	10	9	10	10	9	5	4,110	8,000	9,672
Toowoomba: Helidon	..	3	4	..	3	3	..	19,100	15,030
Toowoomba: Toowoomba	10	14	13	10	14	13	25,484	23,479	18,926
Warwick	22	35	22	16	26	22	48,344	43,178	42,905
Woodford	..	1	*	..	1	*	..	2,170	1,300
Wynnum	8	10	7	8	9	6	34,056	33,880	18,320
Yeulba	1	2	3	1	2	3	500	1,270	5,000
All Other Districts	18	10	35	17	6	29	59,110	950	50,551
Total State	1,926	2,470	2,501	1,517	2,025	1,944	4,825,223	5,219,521	4,997,851

* Less than ½ acre.

Table No. 27.

WINE MADE IN PETTY SESSIONS DISTRICTS DURING 1936 AND TOTAL STATE FIGURES FOR FIVE YEARS.

Petty Sessions District.	Number of Makers.	Quantity of Wine Made.	Grapes Used.
	No.	Gallons.	Lb.
Brisbane	1	83	1,000
Caboolture	1	70	220
Clifton	1	40	500
Gladstone	1	75	1,500
Oakey	2	160	3,670
Rockhampton	1	30	600
Roma	1	22,933	287,000
Stanthorpe	7	2,440	54,950
Toogoolawah	1	800	3,000
Toowoomba	4	790	11,590
Warwick	1	1,200	17,000
Wynnum	1	500	7,200
Total State	22	29,121	388,230
Total State, 1936	22	29,121	388,230
1935	21	22,569	328.368
1934	26	38,051	570,121
1933	38	31,796	460,033
1932	39	35,301	446,778

Table No. 28.

BANANAS—AREA AND PRODUCTION IN PETTY SESSION DISTRICTS.

Petty Sessions. District.	Growers.			Total Area.			Area Bearing.			Produce.		
	1934.	1935.	1936.	1934.	1935.	1936.	1934.	1935.	1936.	1934.	1935.	1936.
	No.	No.	No.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Bunches.	Bunches.	Bunches.
Atherton	5	2	11	12	2	3	10	2	3	2,700	100	444
Ayr	2	1	12	24	30	27	24	30	21	4,000	2,600	4,456
Beaudesert	4	2	3	26	12	16	24	12	15	6,064	1,850	2,100
Biggenden	2	1	4	8	2	15	8	2	13	2,700	172	3,112
Bowen	8	6	13	10	11	11	8	11	5	1,369	3,000	1,588
Brisbane (North)	71	74	62	344	280	281	225	177	159	48,610	38,609	50,786
Brisbane (South)	5	5	3	21	12	2	12	9	1	3,622	2,100	650
Bundaberg	26	22	27	107	82	83	84	68	59	36,933	36,787	15,996
Burke	..	..	1	..	..	1	..	..	*	..	..	20
Caboolture	37	30	32	312	249	331	233	163	190	53,132	50,455	62,423
Cairns	39	34	39	176	158	147	162	151	134	16,360	15,935	10,868
Cardwell	20	7	6	62	40	35	58	27	20	8,022	4,330	2,612
Charters Towers	..	1	..	..	6	..	..	..	..	..	..	..
Childers	1	..	3	1	..	*	1	..	*	500	..	31
Chillagoe	..	1	2	..	1	1	..	1	1	..	10	100
Cleveland	130	115	67	269	222	196	131	171	152	33,902	33,496	30,345
Coen	..	..	1	..	..	*	..	..	*	..	..	2
Cook	4	3	3	5	4	4	5	3	4	459	371	345
Douglas	..	..	2	..	..	*	..	..	*	..	..	36
Dugandan	1	1	2	6	5	5	6	5	5	2,000	600	200
Esk	1	6	5	3	27	20	..	23	11	..	5,640	2,947
Gayndah	3	4	5	5	12	16	5	9	14	453	898	1,806
Gin Gin	1	1	3	1	2	4	1	..	3	100	..	340
Gladstone	18	19	13	59	51	91	43	39	52	7,600	9,660	13,833
Gympie	185	136	112	1,403	934	723	1,117	809	425	316,414	178,452	109,379
Harrisville	2	..	..	1	..	..	1	..	..	90	..	..
Herberton	..	..	3	..	..	*	..	..	*	..	..	18
Ingham	1	1	90	4	1	8	..	1	8	..	100	1,375
Innisfail	1	..	14	14	..	17	11	..	16	224	..	1,940
Kilcoy	13	5	3	142	51	18	92	48	18	29,723	6,458	2,950
Kilkivan	1	..	..	12	..	..	12	..	..	1,200	..	..
Laidley	1	1	1	2	3	2	2	2	2	330	300	300
Logan	177	167	139	692	655	604	463	534	464	135,931	165,187	157,586
Mackay	18	13	38	95	50	49	53	35	34	16,761	7,084	9,360
Mareeba	1	2	11	1	4	21	1	4	10	60	180	531
Maroochy	351	331	268	2,090	1,820	1,484	1,521	1,520	1,002	402,781	416,011	283,248
Maryborough	26	12	17	73	39	16	69	35	11	10,502	4,835	3,613
Mount Morgan	1	..	..	1	..	..	1	..	..	30	..	..
Mount Perry	2	..	2	8	..	6	5	..	2	730	..	200
Nanango	1	..	..	2	..	..	..	..	..	..	..	..
Proserpine	..	..	1	..	..	*	..	..	*	..	..	20
Redcliffe	62	52	37	443	238	196	308	174	141	96,888	44,089	43,043
Rockhampton	57	43	28	319	242	275	225	195	159	89,733	49,349	54,263
Somerset	3	..	2	193	..	10	70	..	*	680	..	18
Southport	235	236	117	2,777	2,582	2,135	1,632	2,139	1,487	468,355	527,274	491,454
St. Lawrence	4	6	5	9	13	13	9	8	9	1,750	1,450	1,680
Tiaro	16	8	8	79	43	47	51	39	36	8,490	7,250	5,670
Toogoolawah	1	..	..	7	..	..	6	..	..	1,000	..	..
Townsville	13	12	17	48	41	43	36	36	27	7,363	3,380	4,152
Woodford	28	51	21	353	511	306	238	461	229	69,266	99,518	57,743
Wynnum	10	6	7	104	65	43	64	61	41	19,073	15,848	13,661
Total State	1,588	1,417	1,260	10,323	8,500	7,305	7,027	7,004	4,983	1,905,900	1,733,378	1,447,244

* Less than half-acre.

Table No. 29.

PINEAPPLES—AREA AND PRODUCTION IN PETTY SESSIONS DISTRICTS.

Petty Sessions District.	Total Area.			Bearing Area.			Produce.		
	1934.	1935.	1936.	1934.	1935.	1936.	1934.	1935.	1936.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Dozen.	Dozen.	Dozen.
Atherton	1	..	2	1	..	2	40	..	232
Ayr	4	4	1	4	4	1	40	10	127
Beaudesert	2	..	..	..	..	..	..	..	..
Biggenden	6	6	6	6	5	6	800	835	548
Bowen	188	234	224	150	204	149	26,333	29,724	29,446
Brisbane (North)	407	364	366	351	300	270	82,983	83,522	73,934
Brisbane (South)	211	217	191	198	192	136	37,054	37,581	22,324
Bundaberg	23	57	65	17	31	41	3,120	3,875	6,510
Caboolture	630	657	589	495	497	413	74,122	162,124	79,263
Cairns	49	45	40	45	45	36	4,170	4,870	3,016
Cardwell	7	3	9	7	3	5	433	103	643
Charters Towers	..	..	1	..	..	1	..	..	..
Childers	3	..	1	3	..	1	500	..	146
Chillagoe	..	..	*	..	..	*	..	..	2
Cleveland	672	541	635	504	438	516	34,661	101,648	75,914
Coen	..	..	*	..	..	*	..	..	1
Cook	..	2	2	..	2	2	..	86	86
Dugandan	1	1	2	1	1	1	75	62	108
Eidsvold	..	..	1	..	..	..	..	..	..
Esk	..	1	*	..	1	..	..	30	..
Gayndah	5	9	11	4	6	9	680	696	447
Gin Gin	8	8	10	8	8	10	1,760	650	735
Gladstone	25	20	17	18	14	14	2,974	2,201	2,744
Gympie	528	635	772	413	485	505	141,155	129,560	210,252
Ingham	3	..	6	..	..	6	..	..	1,706
Innisfail	..	..	1	..	..	1	..	..	55
Ipswich	30	34	34	30	34	29	45,040	8,120	5,026
Kilcoy	..	..	*	..	..	*	..	..	50
Kilkivan	..	..	*	..	..	*	..	..	7
Laidley	2	3	3	2	2	2	85	181	177
Logan	85	51	49	71	41	37	17,269	11,847	6,745
Lowood	12	10	24	11	10	18	2,530	2,410	6,174
Mackay	6	21	25	5	12	17	1,039	2,200	3,116
Marburg	12	15	12	11	14	10	1,270	1,620	595
Mareeba	..	2	3	..	2	1	..	90	246
Maroochy	1,750	2,097	2,427	1,471	1,582	1,578	451,358	554,690	565,765
Maryborough	192	124	228	177	95	194	37,404	24,752	32,706
Monto	..	1	..	..	1	..	..	95	..
Mount Morgan	10	8	5	10	8	5	1,235	839	710
Mount Perry	2	..	*	2	..	*	82	..	20
Nanango	..	..	1	..	..	1	..	..	60
Proserpine	1	..	*	1	..	*	410	..	49
Redcliffe	89	98	119	61	70	77	43,547	13,687	16,839
Rockhampton	215	217	192	189	194	146	56,140	43,738	36,096
Rosewood	1	..	1	..	..	..	..	..	..
Somerset	11	1	2	11	1	2	146	60	40
Southport	34	21	5	18	18	5	3,800	4,190	640
St. Lawrence	8	16	13	8	9	9	1,300	2,232	2,323
Tiaro	35	40	36	29	37	27	3,500	4,575	5,412
Townsville	178	96	81	169	89	66	32,977	83,079	25,356
Wienholt	3	1	6	3	1	3	150	20	105
Woodford	16	26	19	15	23	13	2,794	3,840	2,589
Wynnum	119	93	77	84	66	43	13,855	13,573	8,649
Total State	5,584	5,779	6,314	4,603	4,545	4,408	1,126,831	1,333,415	1,227,734

*Less than ½ Acre.

Table No. 30.

ORANGES AND MANDARINS.—Area and Production in Petty Sessions Districts.

Petty Sessions District.	Total Area.			Bearing Area.			Produce.		
	1934.	1935.	1936.	1934.	1935.	1936.	1934.	1935.	1936.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.
Allora	39	28	28	33	22	22	2,500	1,500	762
Atherton	4	4	15	2	3	12	177	519	1,422
Beaudesert	2	13	18	2	12	17	1,115	404	962
Bowen	48	38	44	41	32	35	1,567	1,251	821
Brisbane	33	21	24	18	14	17	1,710	608	1,111
Bundaberg	39	65	74	36	41	52	5,320	4,712	4,550
Caboolture	82	98	82	68	67	57	9,572	8,967	13,196
Cairns	52	36	51	37	25	45	5,163	4,632	7,302
Cape River	15	16	21	12	12	14	1,666	1,257	1,371
Cardwell	211	178	264	147	128	192	11,955	9,884	15,111
Charleville	13	12	15	10	10	13	995	1,016	683
Charters Towers	65	58	67	61	57	58	3,154	3,461	3,662
Childers	31	33	51	29	32	49	3,650	5,069	5,469
Cleveland	25	15	15	16	11	10	1,013	685	812
Cook	22	29	23	21	27	21	298	878	1,043
Crow's Nest	27	26	24	24	19	18	2,571	1,706	676
Emerald	31	33	41	30	33	33	5,834	3,070	6,790
Esk	64	59	63	56	52	55	4,229	3,036	2,166
Gatton	93	40	84	58	22	53	11,495	7,351	6,784
Gayndah	139	181	194	82	130	134	8,737	16,765	25,429
Gin Gin	3	4	10	3	4	9	460	452	613
Gladstone	48	43	43	43	38	36	3,307	2,625	2,113
Gympie	63	46	67	55	39	47	13,347	1,851	3,431
Ingham	27	22	27	20	17	21	9,689	1,400	2,897
Ipswich	11	11	6	11	11	6	1,320	1,320	280
Logan	47	32	46	46	30	40	7,448	3,512	5,395
Lowood	23	24	18	23	24	17	2,200	1,413	619
Mackay	45	41	82	31	34	56	5,850	3,841	3,662
Maroochy	1,003	939	888	893	796	715	127,152	97,879	93,826
Maryborough	454	487	471	382	410	370	75,849	53,832	48,549
Mount Morgan	20	15	17	16	14	13	1,790	1,791	1,928
Proserpine	23	18	21	22	18	16	1,372	833	1,590
Redcliffe	19	15	13	15	12	12	1,415	1,225	897
Rockhampton	232	234	202	198	196	173	27,841	20,399	17,501
Roma	48	49	60	33	39	35	3,013	1,341	2,755
Southport	80	65	53	62	52	46	7,444	6,522	5,069
Tiaro	60	15	19	56	12	13	3,535	1,092	1,058
Toowoomba—									
Helidon	15	13	26	9	7	20	1,730	1,316	2,849
Toowoomba	24	20	19	20	16	16	1,987	1,866	672
Townsville	21	48	22	15	32	17	872	714	204
Wienholt	3	7	12	3	6	8	660	811	2,061
Woodford	10	10	7	8	9	6	1,212	1,321	374
All Other Districts	107	81	207	89	70	151	5,993	3,642	8,974
Total State	3,421	3,222	3,534	2,836	2,635	2,750	388,207	287,769	307,439

Table No. 31.

GRAIN AND OTHER CROPS—AREAS, 1936.

(For Production see Table 34.)

Division.	Grain Crops.							Hay (all kinds).					Green Forage.						Potatoes.		Pumpkins.	Cotton.	Sugar-cane. (a)		Arrowroot.	Peanuts.	Tobacco.	Grapes.	
			Barley.																										
	Wheat.	Oats.	Malting.	Other.	Maize.	Rye.	Rice.	Wheat.	Oats.	Lucerne.	Other.	Total.	Wheat.	Oats.	Sorghum.	Lucerne.	Other.	Total.	English.	Sweet.			Cut for Crushing.	Stand Over and Unproductive.				Bearing.	Not Bearing.
Moreton Division.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.
Brisbane (North) ..	20	5	..	..	174	..	..	..	26	78	30	134	88	269	735	172	1,395	2,659	153	78	361	4	..	..	*	5	..	221	23
Brisbane (South) ..	..	1	..	..	6	..	..	..	12	63	11	86	71	55	217	66	356	765	8	1	29	5	..	..	..	..	..	5	..
Beaudesert	..	41	6	1	3,822	..	..	5	49	2,118	371	2,543	86	2,307	599	2,283	1,922	7,197	287	87	777	..	..	..	23	..	..	*	..
Caboolture	12	..	..	..	72	..	..	..	..	22	7	29	12	130	90	21	172	425	61	31	44	1	..	..	1	..	7	1	..
Cleveland	..	..	1	..	9	..	..	..	11	2	7	20	10	17	31	1	87	146	11	7	22	..	*	*	..	25	..	3	..
Crow's Nest ..	185	73	10	36	6,127	..	..	35	23	865	57	980	606	4,019	458	501	1,958	7,542	306	4	766	..	..	..	..	1	..	*	..
Dugandan	109	36	..	..	5,571	16	..	116	39	2,983	339	3,477	66	2,853	1,368	2,215	4,144	10,646	1,030	43	1,123	50	..	..	1	*	..	*	..
Esk	..	32	..	..	944	..	..	..	26	356	32	414	9	539	213	380	721	1,862	112	54	184	27	..	..	..	..	..	1	2
Gatton	293	74	..	..	5,202	..	..	167	213	2,712	233	3,325	459	1,918	1,266	1,675	2,582	7,900	1,250	177	3,166	249	..	..	..	1	*	4	..
Harrisville	104	31	..	..	3,161	..	..	183	370	2,819	504	3,876	155	2,608	967	2,377	2,395	8,502	215	80	523	17	..	..	1	..	..	..	..
Ipswich	..	36	1	..	688	..	..	56	33	357	129	575	77	578	395	459	715	2,224	173	27	88	43	..	..	..	1	..	..	..
Kilcoy	..	..	..	..	795	..	..	..	16	107	15	138	4	512	78	166	370	1,130	91	77	91	..	..	..	15	..	..	*	..
Laidley	180	6	..	..	5,790	..	..	156	107	3,832	239	4,334	309	1,259	997	1,398	2,280	6,243	978	148	1,335	98	..	..	..	3	..	1	..
Logan	..	4	..	..	423	..	..	4	18	101	14	137	45	106	249	100	1,205	1,705	665	182	71	3	668	500	219	11	..	4	1
Lowood	..	34	..	..	3,635	..	..	19	83	801	43	946	119	1,310	928	1,228	2,437	6,022	1,100	103	1,142	69	..	..	2	*	..	55	2
Marburg	..	48	..	..	1,500	..	..	..	3	155	53	211	65	1,098	1,402	906	3,025	6,496	166	57	116	25	..	..	11	5	..	..	..
Maroochy	..	..	..	..	507	..	..	..	17	11	4	32	24	435	317	35	1,082	1,893	57	61	72	..	3,905	2,060	35	53	..	*	..
Redcliffe	2	*	..	3	192	..	..	..	6	52	20	78	90	298	761	66	1,399	2,614	152	69	180	..	10	16	1	7	..	*	..
Rosewood	..	..	..	..	2,028	..	..	38	77	1,564	307	1,986	146	1,293	1,235	1,290	1,531	5,495	200	42	45	56	..	..	6	..	..	..	..
Southport	..	2	..	..	560	..	..	1	3	14	2	20	12	173	136	12	556	889	232	31	63	..	23	17	430	1	..	1	..
Toogoolawah ..	5	45	..	..	2,566	..	..	4	34	1,014	19	1,071	85	1,875	748	1,792	1,718	6,218	287	170	812	72	..	..	1	..	..	5	5
Woodford	4	15	..	..	271	..	..	..	3	4	1	8	..	191	127	5	355	678	24	18	20	..	..	..	8	..	..	*	..
Wynnum	..	..	1	..	1	..	..	1	..	2	..	3	1	22	73	4	116	216	17	8	12	..	..	..	..	2	..	6	1
Oakey–Cooyar ..	250	44	10	..	1,559	..	..	..	1	189	26	216	252	1,290	121	568	782	3,013	171	1	303	..	..	..	..	..	..	..	..
Toowoomba–Helidon	76	12	..	..	1,047	..	..	5	23	700	165	893	268	1,349	832	708	1,580	4,737	543	156	635	49	..	..	..	3	..	3	1
Total Moreton ..	1,240	539	29	40	46,650	16	..	790	1,193	20,921	2,628	25,532	3,059	26,504	14,343	18,428	34,883	97,217	8,289	1,712	11,980	768	4,606	2,593	754	118	7	310	35
Wide Bay Division.																													
Biggenden	15	..	..	..	733	..	..	..	25	147	131	303	14	1,214	102	167	529	2,026	64	14	161	285	71	29	1	9	..	1	..
Bundaberg	..	..	..	..	345	..	..	..	2	88	7	97	..	114	99	42	1,231	1,486	121	35	45	22	20,131	13,451	6	11	26	2	1
Childers	..	..	..	..	45	..	..	..	1	6	..	7	..	13	13	6	303	335	7	2	3	61	9,606	6,126	..	*	..	*	..
Eidsvold	21	..	..	..	440	..	..	..	13	63	69	145	75	499	188	99	492	1,353	64	53	204	1,504	..	..	..	..	..	1	1
Gayndah	32	98	..	..	2,393	..	..	11	88	373	184	656	118	3,633	1,471	620	4,440	10,282	185	66	644	5,533	..	..	..	33	2	1	..
Gin Gin	..	..	..	..	347	..	..	..	4	44	10	58	2	125	47	26	506	706	40	8	18	59	4,487	3,027	..	1	..	1	..
Gympie	15	6	..	..	2,002	..	..	7	44	296	62	409	97	1,781	483	224	2,191	4,776	313	338	224	10	161	133	72	11	..	10	5
Kilkivan	38	..	..	..	359	..	..	16	..	286	69	371	14	250	60	339	238	901	39	20	75	45	..	..	..	..	..	*	..
Maryborough ..	..	..	..	..	119	..	..	29	34	211	67	341	20	72	46	95	561	794	170	11	40	5	4,089	1,883	2	25	..	8	..
Mount Perry ..	12	..	..	..	28	..	..	..	..	3	6	9	6	6	..	..	9	21	7	1	2	45	..	..	..	2	..	*	..
Nanango	300	538	..	14	20,101	..	..	..	227	2,453	144	2,824	811	11,247	1,725	3,278	7,373	24,434	535	143	1,296	298	..	..	5	8,452	..	1	1
Tiaro	3	10	..	..	353	..	..	2	12	114	14	142	30	373	61	96	372	932	130	34	84	19	1,351	1,147	6	1	..	5	..
Wienholt	261	500	6	..	20,323	..	..	63	143	3,977	326	4,509	435	11,506	1,472	4,020	6,813	24,246	1,351	222	2,309	1,105	..	..	12	5,271	..	2	..
Total Wide Bay ..	697	1,152	6	14	47,588	..	..	128	593	8,061	1,089	9,871	1,622	30,833	5,767	9,012	25,058	72,292	3,026	947	5,105	8,991	39,896	25,796	104	13,816	28	32	8
Downs Division.																													
Allora	22,786	224	405	222	7,660	..	..	424	109	1,550	568	2,651	3,835	3,540	419	2,425	4,396	14,615	20	..	42	..	..	..	..	..	..	*	..
Chinchilla	842	82	18	..	350	..	..	35	41	26	106	208	864	1,692	453	47	890	3,946	5	5	58	26	..	..	..	*	..	*	*
Clifton	36,287	385	1,039	369	12,372	..	..	405	120	1,886	2,330	4,741	8,047	4,938	894	4,308	8,940	27,127	13	..	139	..	..	..	..	..	..	1	..
Condamine	1,279	..	..	5	90	..	..	44	2	11	4	61	271	195	25	386	371	1,248	1	..	3	294	..	..	..	..	..	4	..
Dalby	28,638	1,137	329	164	1,835	..	..	18	80	205	396	699	7,806	12,383	1,963	398	4,488	27,038	23	..	246	100	..	..	..	4	..	1	1
Goondiwindi ..	378	..	..	3	12	..	..	114	..	8	10	132	114	..	10	2	63	189	13	..	15	..	..	..	..	..	51	*	..
Inglewood	1,151	136	8	31	223	..	..	22	14	118	91	245	816	541	28	278	355	2,018	..	..	23	12	..	..	..	..	270	2	1
Killarney	7,251	177	25	120	7,011	..	..	446	5	865	85	1,401	1,744	2,472	259	2,085	2,498	9,058	34	..	17	..	..	..	..	..	..	*	*
Oakey	52,439	973	359	207	7,856	11	..	369	330	1,361	1,004	3,064	15,617	18,149	3,026	4,561	14,723	56,076	106	3	571	6	..	..	..	..	..	3	..

Pittsworth	75,650	616	685	693	2,578	..	..	463	190	624	769	2,046	13,356	8,713	8,456	3,316	8,114	41,955	18	..	116	52	..	..	..	..	..	1	..
Stanthorpe	8	2	..	..	174	..	..	11	41	17	4	73	94	88	8	13	160	363	150	..	35	..	..	..	..	..	3	1,101	427
Texas	474	81	..	96	93	..	..	29	16	252	10	307	101	193	58	297	176	825	..	..	18	5	..	..	..	..	320	*	..
Toowoomba	10,928	521	673	134	6,068	..	..	246	207	1,866	987	3,306	5,572	7,660	1,400	5,247	8,650	28,529	230	1	131	..	..	..	..	9	..	13	..
Warwick	19,349	1,877	707	231	14,184	..	..	429	129	2,513	865	3,936	6,731	6,801	946	5,424	9,866	29,768	183	..	118	..	..	..	..	..	..	22	..
Total Downs ..	257,460	6,211	4,248	2,275	60,506	11	..	3,055	1,284	11,302	7,229	22,870	64,968	67,365	17,945	28,787	63,690	242,755	796	9	1,532	495	..	..	..	13	644	1,148	429
Maranoa Division.																													
Bollon	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dirranbandi	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	..	..	..	..	..	..	..	2	..
Mitchell	1,779	8	..	..	3	..	..	40	8	1	9	58	374	12	6	..	3	395	..	..	13	3	..	..	..	..	..	2	1
Roma	21,173	..	..	..	80	..	..	902	..	10	175	1,087	1,747	82	54	7	814	2,704	1	..	13	253	..	..	..	..	..	355	74
St. George	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..	..	..	..	..	..	2	..
Surat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Yeulba	5	..	..	..	3	..	..	..	..	..	..	..	38	..	..	..	..	38	4	..	5	..	..	..	..	..	..	3	..
Total Maranoa ..	22,957	8	..	..	86	..	..	942	8	11	184	1,145	2,159	94	60	7	817	3,137	10	1	33	256	..	..	..	..	..	364	75
South-Western Division.																													
Adavale	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Augathella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Charleville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	1	..	1	..	..	..	..	..	..	5	..
Cunnamulla	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quilpie	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	..	..	..	*	..
Thargomindah ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Total South-Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	5	1	..	1	..	..	..	..	..	..	8	..
Total South Queensland	*282,354*	*7,910*	*4,283*	*2,329*	*154,830*	*27*	..	*4,915*	*3,078*	*40,295*	*11,130*	*59,418*	*71,808*	*124,796*	*38,115*	*56,236*	*124,451*	*415,406*	*12,122*	*2,669*	*18,651*	*10,510*	*44,502*	*28,589*	*858*	*13,947*	*679*	*1,862*	*547*
Port Curtis Division.																													
Banana	702	15	6	..	18	..	..	34	50	209	..	293	182	42	46	123	97	490	6	3	13	960	..	..	..	..	..	1	..
Gladstone	15	..	..	..	938	..	..	..	9	259	104	372	31	313	177	156	764	1,441	502	15	158	262	..	..	..	15	72	2	..
Monto	101	..	..	3	2,030	..	..	12	6	1,228	122	1,368	220	1,714	178	1,819	1,617	5,548	162	3	752	8,357	..	..	..	3	..	*	..
Mount Morgan ..	460	7	20	1	1,396	..	..	52	16	80	93	241	253	451	260	200	1,207	2,371	80	2	183	39,725	..	..	..	64	..	2	..
Rockhampton ..	16	..	..	..	775	..	..	30	48	299	236	613	29	141	214	142	287	813	109	63	192	1,939	..	..	..	1,472	..	34	6
St. Lawrence ..	..	..	..	..	33	..	..	..	..	22	2	24	..	..	..	..	1	1	7	1	10	26	129	33	..	..	..	..	..
Taroom	..	..	..	..	22	..	..	..	..	..	..	..	2	5	..	..	..	7	..	..	1	8	..	..	..	..	..	*	..
Total Port Curtis..	1,294	22	26	4	5,212	..	..	128	129	2,097	557	2,911	717	2,666	875	2,440	3,973	10,671	866	87	1,309	51,277	129	33	..	1,554	72	39	6
Central-Western Division.																													
Alpha	..	..	..	..	..	..	..	10	..	..	..	10	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Aramac	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..
Barcaldine	..	..	..	..	..	..	..	5	3	30	3	41	..	..	..	15	..	15	2	2	..	..	..	..	..	..	..	*	*
Blackall	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	*	..
Clermont	..	..	..	..	25	..	..	100	..	..	9	109	..	..	2	3	..	5	2	*	5	81	..	..	..	..	..	1	..
Emerald	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	14	..	..	..	..	..	2	..
Longreach	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springsure	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	76	..	..	..	..	..	1	..
Tambo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	1	..	..	..	..	..	..	1	..
Total Central-Western	..	..	..	..	32	..	..	115	3	30	12	160	..	..	2	18	..	20	11	3	14	171	..	..	..	..	..	5	..
Far Western Division.																													
Boulia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Isisford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jundah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Windorah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winton	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Total Far Western ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Total Central Queensland ..	*1,294*	*22*	*26*	*4*	*5,244*	..	..	*243*	*132*	*2,127*	*569*	*3,071*	*717*	*2,666*	*877*	*2,458*	*3,973*	*10,691*	*877*	*90*	*1,323*	*51,448*	*129*	*33*	..	*1,554*	*72*	*44*	*6*

* Less than half-acre.

(*a*) Excluding cut for Green Fodder.

Table No. 31—*continued.*

GRAIN AND OTHER CROPS—AREAS, 1936. (For Production see Table 34.)

Division.	Grain Crops.							Hay (all Kinds).					Green Forage.						Potatoes.		Pumpkins.	Cotton.	Sugar-cane. *a*		Arrowroot.	Peanuts.	Tobacco.	Grapes.	
			Barley.																										
	Wheat.	Oats.	Malting.	Other.	Maize.	Rye.	Rice.	Wheat.	Oats.	Lucerne.	Other.	Total.	Wheat.	Oats.	Sorghum.	Lucerne.	Other.	Total.	English.	Sweet.			Cut for Crushing.	Stand Over and Unproductive.				Bearing.	Not Bearing.
Edgecumbe Division.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.
Ayr	..	..	..	..	22	..	..	..	..	..	..	..	..	..	49	2	105	156	28	1	25	..	21,227	15,508	..	..	18	*	..
Bowen	..	..	..	..	64	..	..	..	3	..	2	5	4	1	108	..	86	199	84	6	411	31	63	49	..	1	156	*	..
Cape River	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	3	..	..	..	..	1	..	2	1
Charters Towers ..	..	..	..	..	..	..	..	1	..	1	11	13	..	..	21	15	17	53	5	1	9	..	..	..	..	..	2	19	1
Collinsville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	..	..	5	7	..	..	..	..	10	*	..
Mackay	..	..	..	..	96	..	..	..	..	..	3	3	5	2	8	8	1,297	1,320	55	6	32	81	66,748	25,259	..	2	163	2	..
Proserpine	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	47	47	3	..	2	..	8,835	3,576	..	..	..	..	..
Ravenswood ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..
Townsville	..	..	..	..	6	..	..	..	..	..	10	10	..	..	29	..	29	58	99	4	31	..	232	134	..	4	119	*	..
Total Edgecumbe ..	..	..	..	..	193	..	..	1	3	1	26	31	9	3	217	25	1,581	1,835	276	20	518	119	97,105	44,526	..	8	472	23	2
Rockingham Division.																													
Atherton	..	..	10	..	20,397	..	..	71	..	103	20	194	15	106	103	41	732	997	41	89	25	..	..	..	1	1,092	15	*	..
Cairns	..	..	..	..	6	..	..	..	..	..	..	..	..	..	1	..	103	104	..	9	2	..	32,527	4,643	..	..	..	..	..
Cardwell	..	..	..	..	21	..	..	..	..	..	..	..	..	..	..	..	25	25	4	2	10	6	9,092	2,360	..	..	..	..	..
Chillagoe	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Douglas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	103	103	..	..	..	..	6,846	2,007	..	..	..	..	..
Herberton	..	..	..	..	324	..	..	29	5	..	4	38	4	10	1	1	106	122	23	2	32	..	..	..	..	..	21	12	1
Ingham	..	..	..	..	5	..	..	..	..	..	..	..	..	1	6	..	184	191	25	*	..	1	26,852	6,493	..	..	..	..	..
Innisfail	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	224	224	..	..	..	1	28,865	4,317	..	..	..	..	..
Mareeba	..	..	..	..	105	..	..	..	..	..	6	6	..	..	29	..	54	83	74	10	33	115	..	..	6	565	2,714	*	1
Total Rockingham	..	..	10	..	20,865	..	..	100	5	103	30	238	19	117	140	42	1,531	1,849	167	113	102	123	104,182	19,820	7	1,657	2,750	12	2
Peninsula Division.																													
Coen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
Cook	..	..	..	..	50	..	..	..	..	..	..	..	..	..	..	..	1	1	2	5	3	..	..	..	..	145	..	..	..
Somerset	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	3	..	..	..	..	..	..	..	..
Total Peninsula ..	..	..	..	..	50	..	..	..	..	..	..	..	..	..	..	..	1	1	2	12	6	..	..	..	..	145	..	..	..
North-Western Division.																													
Burke	..	..	..	..	..	..	..	..	..	*	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	4	..	..	..	..	..	..	3	..
Croydon	..	..	..	..	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..
Etheridge	..	..	..	..	46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hughenden	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Norman	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Richmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total North-Western	..	..	..	..	84	..	..	..	..	*	..	*	..	..	..	..	..	..	4	2	5	..	..	..	..	*	..	3	..
Total North Queensland ..	..	..	*10*	..	*21,192*	..	..	*101*	*8*	*104*	*56*	*269*	*28*	*120*	*357*	*67*	*3,113*	*3,685*	*449*	*147*	*631*	*242*	*201,287*	*64,346*	*7*	*1,810*	*3,222*	*38*	*4*
Grand Total, State—																													
1936	283,648	7,932	4,319	2,333	181,266	27	..	5,259	3,218	42,526	11,755	62,758	72,553	127,582	39,349	58,761	131,537	429,782	13,448	2,906	20,605	62,200	245,918	92,768	865	17,311	3,973	1,944	557
1935	239,631	6,823	4,285	2,095	157,370	161	..	1,789	2,928	62,779	3,813	71,309	62,569	116,835	42,421	53,275	104,551	379,651	13,620	2,503	13,368	54,947	228,515	86,185	860	9,472	3,117	2,025	445
Increase, 1936 ..	44,017	1,109	34	238	23,896	..	..	3,470	290	..	7,942	..	9,984	10,747	..	5,486	26,986	50,131	..	403	7,237	7,253	17,403	6,583	5	7,839	856	..	112
Decrease, 1936 ..	..	..	..	..	..	134	..	..	..	20,253	..	8,551	..	..	3,072	..	..	..	172	..	..	..	..	..	..	..	..	81	..

* Less than half-acre.

a Excluding cut for Green Fodder.

Table No. 32.

FRUIT CROPS—AREAS, 1936. (For Production see Table 35.)

Division.	Apples.		Apricots.		Bananas.		Cherries.	Custard Apples.		Figs.	Gooseberries (Cape).	Lemons.		Mangoes.		Nectarines.		Oranges and Mandarins.		Passion Fruit.	Papaws.		Peaches.		Pears.		Persimmons.	Pineapples.		Plums.		Quinces.	Strawberries.	Water Melons and Rock Melons.	Small Orchards.
	Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.			Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.	Bearing.	Not Bearing.				
Moreton Division.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.
Brisbane (North)	*	..	1	..	159	122	..	8	2	..	..	24	14	7	..	..	..	11	5	13	164	143	36	29	1	..	1	270	96	2	..	..	12	168	2
Brisbane (South)	..	..	..	..	1	1	..	15	4	26	1	*	1	1	1	..	..	6	2	..	61	43	..	..	..	..	1	136	55	..	..	..	4	4	5
Beaudesert	..	..	*	..	15	1	..	*	..	..	..	1	..	*	..	..	..	17	1	..	*	..	1	*	*	..	..	..	..	*	..	..	..	1	2
Caboolture	..	..	..	..	190	141	..	2	1	..	1	4	3	1	2	..	..	57	25	11	1	3	*	..	..	..	..	413	176	..	..	..	4	3	12
Cleveland	..	..	..	..	152	44	..	67	54	1	..	6	6	2	..	..	..	10	5	28	75	18	1	..	..	..	1	516	119	..	..	..	72	12	6
Crow's Nest	*	..	1	..	..	..	..	..	..	..	..	15	10	..	..	..	..	18	6	..	..	..	1	..	*	..	..	..	..	1	..	..	..	*	2
Dugandan	*	..	..	..	5	..	..	*	..	..	1	1	..	*	..	..	..	1	1	1	1	..	1	..	*	..	..	1	1	*	..	*	..	7	2
Esk	..	..	*	..	11	9	..	..	..	..	..	5	4	..	..	..	..	55	8	3	1	..	*	*	..	..	*	..	*	..	..	..	..	*	3
Gatton	*	..	*	..	..	..	..	..	..	..	..	1	..	..	*	..	..	53	31	..	..	..	1	..	..	..	..	..	..	1	..	..	..	4	2
Harrisville	..	..	*	..	..	..	..	..	..	*	*	*	..	*	..	..	..	2	2	..	..	..	1	*	*	..	..	..	..	..	..	..	..	3	2
Ipswich	..	..	..	..	..	..	..	..	..	..	..	*	..	*	1	..	..	6	..	..	..	1	..	..	..	..	..	29	5	..	..	..	*	13	1
Kilcoy	*	..	*	..	18	..	..	..	..	..	..	*	..	..	..	..	..	2	*	..	..	..	*	..	..	..	..	*	..	*	..	..	..	*	1
Laidley	*	..	..	..	2	..	..	..	..	..	..	*	1	*	..	..	..	4	..	..	1	..	1	..	..	..	..	2	1	..	..	..	..	6	1
Logan	..	..	..	..	464	140	..	52	23	..	..	2	12	18	14	..	..	40	6	73	3	..	*	..	..	..	..	37	12	*	..	..	1	3	2
Lowood	..	..	..	..	..	..	..	..	..	..	..	1	*	..	..	..	..	17	1	..	..	..	*	..	..	..	..	18	6	..	..	..	..	2	*
Marburg	*	..	*	..	..	..	..	..	..	..	3	*	..	*	..	..	..	1	*	..	..	..	1	..	..	..	..	10	2	*	..	..	..	1	1
Maroochy	..	..	..	..	1,002	482	..	4	1	..	..	16	9	12	4	..	..	715	173	14	38	33	1	..	*	..	..	1,578	849	*	2	..	57	4	40
Redcliffe	..	..	..	..	141	55	..	*	..	..	..	*	..	5	..	..	..	12	1	..	3	4	*	..	..	..	..	77	42	*	..	..	3	57	2
Rosewood	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	*	1	..	..	..	1	..	..	..	..	..	1	..	..	..	..	*	1
Southport	*	..	*	..	1,487	648	..	*	1	..	..	1	1	1	..	..	..	46	7	17	7	6	1	..	*	..	..	5	..	..	..	..	1	6	22
Toogoolawah ..	*	..	*	..	..	..	..	*	..	..	..	1	..	*	..	..	..	4	1	..	*	..	1	..	*	..	..	..	..	..	..	..	*	10	1
Woodford	*	..	*	..	229	77	..	*	..	..	..	*	..	*	..	..	..	6	1	..	*	..	1	..	..	..	..	13	6	..	..	..	*	1	2
Wynnum	..	..	..	..	41	2	..	1	1	1	..	*	..	1	..	..	..	..	..	..	9	14	..	..	..	..	..	43	34	..	..	..	4	13	..
Oakey–Cooyar ..	*	..	*	..	..	..	..	..	..	..	..	*	..	..	..	..	..	*	..	..	..	..	*	..	*	..	..	..	..	*	..	..	..	*	2
Toowoomba–Helidon	..	..	*	..	..	..	..	..	..	..	..	1	2	1	*	..	..	20	6	..	..	..	1	..	..	..	..	..	..	..	..	..	..	10	1
Total Moreton ..	..	..	2	..	3,917	1,722	..	149	87	28	6	79	63	49	22	..	..	1,103	283	160	364	265	50	29	1	..	3	3,148	1,405	4	2	..	158	328	115
Wide Bay Division.																																			
Biggenden	*	*	..	*	13	2	..	*	*	..	..	1	2	1	*	..	..	6	3	..	1	..	*	*	*	*	..	6	..	*	*	..	..	2	1
Bundaberg	*	*	..	..	59	24	..	7	3	..	..	2	9	6	*	..	..	52	22	1	3	..	1	*	*	*	..	41	24	*	*	..	3	12	5
Childers	*	..	..	..	*	..	..	*	*	..	..	*	*	2	*	..	..	49	2	..	1	..	*	*	*	..	..	1	..	..	..	..	..	*	2
Eidsvold	*	*	*	*	..	..	..	..	..	..	..	*	1	..	..	..	..	4	1	1	..	..	1	*	*	*	..	..	1	1	*	..	..	*	1
Gayndah	*	*	..	*	14	2	..	*	1	..	..	40	39	1	2	..	..	134	60	5	1	..	1	*	*	..	..	9	2	*	*	..	..	23	4
Gin Gin	*	*	..	*	3	1	..	1	*	..	..	1	*	2	*	..	..	9	1	..	1	..	1	*	*	*	..	10	..	*	*	..	*	*	1
Gympie	*	*	..	*	425	298	..	2	1	..	..	5	3	10	5	..	..	47	20	1	19	17	1	1	*	*	1	505	267	*	*	..	1	14	13
Kilkivan	*	*	*	..	..	..	..	*	..	..	..	*	*	*	*	..	..	1	1	..	..	..	*	*	..	..	..	*	..	..	..	..	..	..	1
Maryborough ..	..	*	..	*	11	5	..	2	1	..	..	2	2	22	1	..	..	370	101	3	9	3	*	*	*	..	..	194	34	*	*	..	1	21	5
Mount Perry ..	*	*	*	*	2	4	..	*	*	..	..	1	*	*	*	..	..	4	1	..	..	..	*	*	*	..	..	*	..	..	*	..	..	*	1
Nanango	1	*	1	*	..	..	..	*	*	..	..	2	*	*	..	..	..	5	2	..	..	..	3	1	1	*	..	1	..	1	*	..	..	4	2
Tiaro	*	*	*	..	36	11	..	1	*	..	..	1	1	8	*	..	..	13	6	..	7	2	1	*	*	*	..	27	9	*	*	..	..	3	1
Wienholt	*	1	1	1	..	..	..	*	*	..	..	1	1	*	*	..	..	8	4	..	*	..	2	1	*	*	..	3	3	1	*	..	..	7	2
Total Wide Bay ..	1	1	2	1	563	347	..	13	6	..	..	56	58	52	8	..	..	702	224	11	42	22	11	3	1	..	1	797	340	3	..	..	5	86	39
Downs Division.																																			
Allora..	*	..	*	..	..	..	..	..	..	..	..	1	..	..	..	..	..	22	6	..	..	..	*	..	*	..	..	..	..	*	..	..	..	1	1
Chinchilla	*	..	1	..	..	..	..	..	..	..	..	*	*	..	..	..	..	3	1	..	..	..	3	..	*	..	..	..	..	*	*	..	..	1	2
Clifton	*	..	1	*	..	..	..	..	..	*	..	*	..	..	..	*	..	1	*	..	..	..	1	*	*	..	..	..	..	1	*	*	..	..	2
Condamine	..	*	..	*	..	..	..	..	..	1	..	*	..	..	..	..	..	3	1	..	..	..	1	*	*	..	..	..	..	..	*	..	..	1	1
Dalby..	*	..	1	*	..	..	..	..	..	*	..	1	1	..	..	..	..	5	2	..	..	..	1	1	*	..	..	..	..	*	*	..	..	1	3
Goondiwindi ..	..	..	..	..	..	..	..	..	..	*	..	1	*	..	..	..	..	9	*	..	..	..	1	..	*	..	..	..	..	*	..	..	..	4	1
Inglewood	*	..	1	..	..	..	..	..	..	*	..	*	*	..	..	..	..	1	*	..	..	..	1	*	*	..	..	..	..	1	*	*	..	1	2
Killarney	*	..	1	*	..	..	..	..	..	*	..	*	*	..	..	..	..	*	*	..	..	..	1	..	*	..	..	..	..	*	..	..	..	1	2
Oakey	1	..	2	1	..	..	..	..	..	..	..	1	*	..	..	..	..	6	1	..	..	..	2	*	*	*	..	..	..	1	*	..	..	4	2
Pittsworth	*	..	1	*	..	..	..	..	..	*	..	*	*	..	..	..	..	1	1	..	..	..	1	1	*	..	..	..	..	*	*	..	..	2	2
Stanthorpe	3,070	2,054	126	94	..	..	13	..	..	..	..	..	3	..	..	35	7	..	..	2	..	..	1,049	234	223	74	*	..	..	919	271	10	..	3	28
Texas	..	..	*	..	..	..	..	..	..	*	..	*	..	..	..	..	..	1	..	..	..	..	*	..	..	..	..	..	..	*	..	..	..	1	1
Toowoomba	1	*	8	1	..	..	..	..	..	..	..	6	1	..	..	..	..	16	3	..	..	..	3	*	1	..	1	..	..	4	1	..	..	*	2
Warwick	136	92	51	8	..	..	..	..	..	*	..	13	2	..	..	*	..	1	*	..	..	..	13	1	85	2	*	..	..	31	6	..	..	3	2
Total Downs ..	3,208	2,146	193	104	..	..	13	..	..	1	..	23	7	..	..	35	7	69	15	2	..	..	1,077	237	309	76	1	..	..	957	278	10	..	23	51

* Less than ½ acre: equivalent area included under "Small Orchards."

Table No. 32—*continued.*

FRUIT CROPS—AREAS, 1936. (For Production see Table 35.)

Division.	Apples.		Apricots.		Bananas.		Cherries.	Custard Apples.		Figs.	Gooseberries (Cape.)	Lemons.		Mangoes.		Necta-rines.		Oranges and Mandarins.		Passion Fruit.	Papaws.		Peaches.		Pears.		Persimmons.	Pineapples.		Plums.		Quinces.	Strawberries.	Water Melons and Rock Melons.	Small Orchards.
	Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.			Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.	Bearing.	Not Bearing.	Bearing.	Not Bearing.		Bearing.	Not Bearing.	Bearing.	Not Bearing.				
	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.
Maranoa Division.																																			
Bollon	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	*	*	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	1
Dirranbandi	..	..	*	..	..	..	..	..	..	..	..	*	*	..	..	..	..	2	*	..	..	..	1	..	..	..	..	..	..	*	..	..	..	1	..
Mitchell	..	..	*	*	..	..	..	..	..	..	..	*	*	..	..	..	..	3	1	..	..	..	*	*	*	..	..	..	..	..	..	..	..	*	1
Roma	*	*	1	1	..	..	..	..	..	..	..	1	*	..	..	..	..	35	25	..	..	..	2	1	*	1	..	..	..	1	1	..	..	11	1
St. George	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	2	..	..	..	..	1	*	*	..	..	..	..	*	..	..	..	1	1
Surat	..	..	*	*	..	..	..	..	..	..	..	*	..	..	..	..	..	1	..	..	..	..	*	..	*	..	..	..	..	*	..	..	..	*	1
Yeulba	*	*	..	..	..	..	..	..	..	..	..	*	*	..	..	..	..	1	3	..	..	..	*	..	*	..	..	..	..	*	..	..	..	*	1
Total Maranoa	..	..	1	1	..	..	..	..	..	..	..	1	..	..	..	..	..	44	29	..	..	..	4	1	..	1	..	..	..	1	1	..	..	13	6
South-Western Division.																																			
Adavale	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	1
Augathella	..	..	*	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	*	1
Charleville	..	..	*	..	..	..	..	..	..	*	..	2	..	..	..	..	..	13	2	..	..	..	1	..	..	..	..	..	..	1	..	..	..	*	1
Cunnamulla	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	8	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	1
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quilpie	..	..	*	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	*	1
Thargomindah	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*
Total South-Western	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	24	2	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	5
Total South Queensland	*3,209*	*2,147*	*198*	*106*	*4,480*	*2,069*	*13*	*162*	*93*	*29*	*6*	*161*	*128*	*101*	*30*	*35*	*7*	*1,942*	*553*	*173*	*406*	*287*	*1,143*	*270*	*311*	*77*	*5*	*3,945*	*1,745*	*966*	*281*	*10*	*163*	*450*	*216*
Port Curtis Division.																																			
Banana	..	..	..	..	..	..	..	..	..	..	..	*	*	..	..	..	..	2	1	..	..	..	*	*	..	..	..	..	..	*	..	..	..	3	1
Gladstone	..	..	..	..	52	39	..	2	*	..	..	2	1	5	1	..	..	36	7	1	45	55	1	*	..	..	..	14	3	*	*	..	..	11	1
Monto	..	..	..	..	..	..	..	..	..	..	..	*	*	..	..	..	..	1	2	..	*	..	1	*	..	..	..	..	..	*	*	..	..	1	1
Mount Morgan	..	..	..	..	..	..	..	1	*	..	..	1	*	3	3	..	..	13	4	..	1	..	*	1	..	..	..	5	..	*	*	..	..	8	2
Rockhampton	..	..	..	..	159	116	..	9	4	..	..	5	2	19	6	..	..	173	29	6	32	15	1	*	..	..	..	146	46	..	..	..	2	28	6
St. Lawrence	..	..	..	..	9	4	..	*	*	..	..	*	*	*	*	..	..	1	1	..	10	..	*	*	..	..	..	9	4	..	..	..	..	1	1
Taroom	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1	2	..	..	..	*	*	..	..	..	..	..	..	..	..	..	..	1
Total Port Curtis	..	..	..	..	220	159	..	12	4	..	..	8	3	27	10	..	..	227	46	7	88	70	3	1	..	..	..	174	53	..	..	..	2	52	13
Central-Western Division.																																			
Alpha	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	*	1
Aramac	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	*
Barcaldine	..	..	..	..	..	..	..	..	..	..	..	*	..	*	1	..	..	1	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Blackall	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	2	1	..	..	..	1	*	..	..	..	..	..	..	..	..	..	1	1
Clermont	..	..	..	..	..	..	..	..	..	*	..	*	..	..	..	..	..	4	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	*	..
Emerald	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..	33	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Longreach	..	..	..	..	..	..	..	..	..	*	..	*	..	*	..	..	..	*	2	..	..	..	*	..	..	..	..	..	..	..	..	..	..	1	2
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springsure	..	..	..	..	..	..	..	..	..	..	..	1	..	*	..	..	..	4	*	..	*	..	1	..	..	..	..	..	..	..	..	..	..	*	2
Tambo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	*
Total Central-Western	..	..	..	..	..	..	..	..	..	..	..	5	..	..	1	..	..	49	12	..	..	..	2	..	..	..	..	..	..	..	..	..	..	5	7

* Less than ½ acre : equivalent area included under " Small Orchards."

Far Western Division.																																			
Boulia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Isisford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jundah	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	*	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	1	1
Windorah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Winton	..	..	..	..	..	..	..	..	..	..	..	*	..	*	..	..	..	1	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Total Far-Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
Total Central Queensland ..	..	..	..	..	*220*	*159*	..	*12*	*4*	..	..	*13*	*3*	*27*	*11*	..	..	*277*	*58*	*7*	*88*	*70*	*5*	*1*	..	..	..	*174*	*53*	..	..	..	*2*	*59*	*23*
Edgecumbe Division.																																			
Ayr	..	..	..	..	21	6	..	1	..	..	..	1	1	2	..	..	..	11	1	..	1	..	*	..	..	..	..	1	..	..	..	..	..	9	*
Bowen	..	..	..	..	5	6	..	2	1	..	..	3	1	50	28	..	..	35	9	..	..	..	..	..	..	..	..	149	75	..	..	..	..	24	1
Cape River	..	..	..	..	..	..	..	..	..	..	..	1	*	*	..	..	..	14	7	..	..	..	1	..	..	..	..	..	..	..	..	..	..	4	1
Charters Towers	..	..	..	..	..	..	..	*	..	..	..	4	1	1	..	..	..	58	9	..	..	..	..	..	..	..	..	1	..	..	..	..	..	2	*
Collinsville	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	1	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Mackay	*	..	..	..	34	15	..	10	4	..	..	9	23	31	7	..	..	56	26	..	6	..	1	*	..	..	*	17	8	..	..	..	*	11	3
Proserpine	..	..	..	..	*	..	..	2	1	..	..	2	1	11	1	..	..	16	5	..	*	..	*	..	..	..	..	*	..	..	..	..	..	*	*
Ravenswood	..	..	..	..	..	..	..	*	..	..	..	*	..	*	..	..	..	3	1	..	*	..	..	..	..	..	..	..	..	..	..	..	..	1	*
Townsville	..	..	..	..	27	16	..	3	1	..	..	4	2	14	6	..	..	17	5	..	3	2	..	..	..	..	..	66	15	..	..	..	4	15	..
Total Edgecumbe	..	..	..	..	87	43	..	18	7	..	..	24	29	109	42	..	..	211	63	..	10	2	2	..	..	..	..	234	98	..	..	..	4	66	6
Rockingham Division.																																			
Atherton	1	*	..	..	3	..	..	*	*	..	..	1	1	5	1	..	..	12	3	..	1	..	*	..	..	..	*	2	..	..	..	..	*	*	2
Cairns	..	..	..	..	134	13	..	1	..	..	..	1	1	2	*	..	..	45	6	..	3	3	*	..	..	..	..	36	4	..	..	..	..	..	1
Cardwell	..	..	..	..	20	15	..	*	..	..	..	2	1	1	1	..	..	192	72	..	1	*	..	..	..	..	..	5	4	..	..	..	..	..	2
Chillagoe	..	..	..	..	1	..	..	*	..	..	..	*	..	*	..	..	..	*	*	..	*	..	..	..	..	..	..	*	..	..	..	..	..	*	2
Douglas	..	..	..	..	*	..	..	*	..	..	..	1	1	2	*	..	..	2	2	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Herberton	1	..	..	..	*	..	..	*	..	..	..	1	..	*	..	..	..	2	2	..	..	..	1	..	*	..	1	..	..	1	1	..	..	1	4
Ingham	..	..	..	..	8	..	..	3	1	..	..	6	1	16	2	..	..	21	6	..	1	..	1	..	..	..	..	6	..	..	..	..	..	1	..
Innisfail	..	..	..	..	16	1	..	*	*	..	..	3	1	1	1	..	..	9	3	1	*	..	..	..	..	..	..	1	..	..	..	..	..	*	2
Mareeba	..	..	..	..	10	11	..	1	..	..	..	1	2	3	1	..	..	7	10	..	1	..	*	..	..	..	..	1	2	..	..	..	..	19	4
Total Rockingham	2	..	..	..	192	40	..	5	1	..	..	16	8	30	6	..	..	290	104	1	7	3	2	..	..	..	1	51	10	1	1	..	..	21	18
Peninsula Division.																																			
Coen	..	..	..	..	*	..	..	..	..	..	..	*	..	*	..	..	..	*	..	..	*	..	..	..	..	..	..	*	..	..	..	..	..	..	1
Cook	..	..	..	..	4	..	..	*	..	..	..	..	..	2	..	..	..	21	2	..	..	1	..	..	..	..	..	2	..	..	..	..	..	1	1
Somerset	..	..	..	..	*	10	..	..	..	..	..	*	..	1	..	..	..	*	..	..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	1
Total Peninsula ..	..	..	..	..	4	10	..	..	..	..	..	..	..	3	..	..	..	21	2	..	2	1	..	..	..	..	..	4	..	..	..	..	..	1	3
North-Western Division.																																			
Burke	..	*	..	..	*	1	..	*	..	..	..	*	..	1	..	..	..	*	*	..	*	..	..	..	..	..	..	..	..	..	..	..	..	*	3
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	..	..	..	..	..	..	..	*	..	1	1	*	*	..	..	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1
Croydon	..	..	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*	1
Etheridge	..	..	..	..	..	..	..	*	..	..	..	*	..	*	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Hughenden	..	..	..	..	..	..	..	..	..	..	..	*	..	*	..	..	..	2	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	2	*
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Norman	..	..	..	..	..	..	..	..	..	..	..	*	..	2	1	..	..	1	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	1	*
Richmond	..	..	..	..	..	..	..	..	..	..	..	*	..	..	..	..	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	*
Total North-Western	..	..	..	..	..	1	..	..	..	..	..	1	1	3	1	..	..	9	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	6
Total North Queensland	*2*	..	..	..	*283*	*94*	..	*23*	*8*	..	..	*41*	*38*	*145*	*49*	..	..	*531*	*173*	*1*	*19*	*6*	*4*	..	..	..	*1*	*289*	*108*	*1*	*1*	..	*4*	*97*	*33*
Grand Total, State—																																			
1936 ..	3,211	2,147	198	106	4,983	2,322	13	197	105	29	6	215	169	273	90	35	7	2,750	784	181	513	363	1,152	271	311	77	6	4,408	1,906	967	282	10	169	606	272
1935 ..	3,413	2,039	88	57	7,004	1,496	10	181	12	10	3	117	47	152	33	15	..	2,635	587	115	590	311	1,357	354	183	42	4	4,545	1,234	999	261	1	140	149	190
Increase, 1936 ..	..	108	110	49	..	826	3	16	93	19	3	98	122	121	57	20	7	115	197	66	..	52	..	..	128	35	2	..	672	..	21	9	29	457	82
Decrease, 1936 ..	202	..	..	..	2,021	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	77	..	205	83	..	..	..	137	..	32	..	..	..	..	..

* Less than ½ acre: equivalent area included under "Small Orchards."

Table No. 33.

VEGETABLE AND MISCELLANEOUS CROPS, AREAS; AREA UNDER CROP, &c., 1936. (For Production see Table 36.)

Division.	Vegetables.										Miscellaneous Crops.													Total Areas, &c.	
	Beans.		Cabbages and Cauliflowers.	Cucumbers.	Onions.	Peas.		Tomatoes.	Turnips.	Market Gardens.	Canary Seed.	Coffee.	Coconuts.	Cow Peas.	Grass Seed.	Linseed.	Lucerne Seed.	Mangel Wurzel.	Millet (Broom).	Millet (Seed.)	Panicum Seed.	Sunflower Seed.	Other.	Total Extent of Land under Crop.	Total Area of Petty Sessions Districts.
	Green.	Dried.				Green.	Dried.																		
Moreton Division.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Sq. Mls.
Brisbane (North)	177	26	308	59	..	204	10	413	11	239	1	..	..	..	..	..	..	2	2	..	..	..	..	6,579	336
Brisbane (South)	19	11	77	17	*	21	5	83	11	102	..	..	..	2	..	..	..	*	..	..	..	..	..	1,622	213
Beaudesert	1	*	1	*	..	4	..	11	8	4	..	..	..	3	*	..	..	92	..	..	..	..	..	14,947	968
Caboolture	4	1	1	3	..	*	..	7	2	4	..	..	..	..	..	..	..	3	..	..	..	..	..	1,759	304
Cleveland	116	27	253	156	*	33	5	633	2	116	..	..	..	..	..	..	..	1	..	..	..	..	..	2,781	200
Crow's Nest	..	..	..	..	..	6	..	..	..	1	8	..	..	..	*	..	..	9	..	..	..	..	..	16,108	365
Dugandan	30	..	24	19	..	6	..	28	6	7	..	..	..	..	..	..	..	101	6	..	..	..	..	22,352	522
Esk	2	..	1	..	..	*	..	1	9	2	..	..	..	..	3	..	..	15	..	..	..	..	..	3,764	563
Gatton	1	..	18	4	457	..	..	2	14	8	..	..	..	..	8	..	..	35	7	..	..	..	..	22,288	504
Harrisville	2	..	..	2	2	7	..	13	3	1	15	..	..	..	10	..	..	67	..	..	..	..	..	16,642	230
Ipswich	4	3	3	*	1	6	..	2	1	7	..	..	..	..	..	..	..	9	12	..	..	..	..	3,060	228
Kilcoy	..	..	2	..	..	..	..	6	4	1	..	..	..	..	..	..	..	64	..	..	..	..	..	2,435	305
Laidley	2	..	2	..	255	3	*	2	5	21	2	..	..	..	11	..	..	70	176	..	..	..	..	19,684	222
Logan	56	13	96	12	1	138	10	126	7	26	1	..	..	14	..	..	..	15	..	..	..	..	..	6,010	239
Lowood	2	..	3	2	200	1	..	1	12	7	..	..	..	..	2	..	..	71	..	..	..	..	..	13,456	208
Marburg	3	..	*	1	3	17	..	34	..	..	..	..	..	..	..	..	..	51	..	..	..	..	..	8,763	53
Maroochy	162	81	5	33	*	10	2	21	9	20	..	9	..	..	..	..	..	6	..	..	..	..	..	14,067	702
Redcliffe	8	2	46	19	3	11	1	39	*	4	..	..	..	..	..	..	..	..	..	..	..	..	..	3,859	252
Rosewood	1	17	..	*	3	1	..	2	..	3	..	..	..	2	..	..	..	26	..	..	..	..	..	9,917	264
Southport	40	12	9	2	..	10	..	7	*	14	..	..	..	..	3	..	..	2	..	..	..	..	..	4,625	502
Toogoolawah	..	*	1	*	15	..	..	1	8	2	..	..	..	..	..	..	..	121	..	..	..	..	..	11,423	801
Woodford	..	..	*	1	..	..	..	4	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	1,390	202
Wynnum	12	2	7	4	..	13	3	93	3	11	..	..	..	..	..	..	..	..	..	..	..	..	..	579	28
Oakey–Cooyar	..	..	..	..	..	..	..	..	..	17	..	..	..	..	..	..	..	9	..	..	..	..	..	5,595	225
Toowoomba–Helidon	3	2	3	4	2	2	..	9	4	2	..	..	..	..	..	..	..	19	..	..	..	..	..	8,247	252
Total Moreton	645	197	860	338	942	493	36	1,538	119	620	27	9	..	21	37	..	..	790	203	..	..	..	..	222,852	8,688
Wide Bay District.																									
Biggenden	..	2	1	1	..	*	..	1	2	3	..	..	..	4	*	..	..	18	3	..	..	..	..	3,785	653
Bundaberg	2	1	11	3	*	1	1	9	1	39	..	..	..	..	..	..	..	3	..	..	..	..	..	36,124	1,460
Childers	1	..	1	*	..	2	..	*	2	6	..	..	..	..	*	..	..	..	..	..	..	..	..	16,261	647
Eidsvold	..	1	*	*	..	..	..	*	..	9	..	..	..	..	*	..	..	21	..	..	..	..	..	3,828	2,383
Gayndah	..	1	*	*	1	1	13	..	6	1	..	..	..	361	*	..	..	79	74	..	*	..	..	20,800	3,727
Gin Gin	*	..	2	*	..	*	*	1	1	2	..	..	..	..	..	..	..	..	2	..	..	..	..	8,791	1,056
Gympie	940	123	18	18	1	30	1	20	15	15	..	11	..	..	*	..	..	42	..	..	..	..	..	11,375	1,634
Kilkivan	1	1	1	..	..	1	..	..	2	..	..	..	..	..	..	..	..	10	..	..	..	..	..	1,867	333
Maryborough	10	1	11	2	..	15	1	11	5	6	..	..	..	..	..	..	..	..	..	..	..	..	..	8,336	1,697
Mount Perry	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	143	868
Nanango	*	*	*	1	5	*	..	*	9	3	189	..	..	285	*	..	..	40	53	..	..	..	..	59,551	1,755
Tiaro	58	21	3	2	..	10	1	13	8	3	..	..	..	..	..	..	..	16	..	..	..	..	..	4,479	2,607
Wienholt	12	1	13	1	75	23	5	1	9	5	33	..	..	213	*	..	..	249	10	..	..	..	..	60,803	2,269
Total Wide Bay	1,024	152	61	28	82	83	22	56	60	95	222	11	..	863	..	..	..	478	142	..	..	..	..	236,143	21,089
Downs Division.																									
Allora	1	..	2	*	2	*	..	3	..	1	1,860	..	..	..	210	..	..	..	..	..	891	..	..	51,626	324
Chinchilla	..	..	1	*	..	2	..	*	4	1	..	..	..	..	24	..	..	1	..	..	..	..	..	5,584	2,311
Clifton	..	..	..	..	..	..	..	..	..	3	6,546	..	..	..	717	..	..	..	55	32	3,388	185	..	93,405	408
Condamine	1	..	2	*	..	1	..	1	..	1	..	..	..	..	10	..	..	..	..	..	..	..	..	3,009	3,592
Dalby	..	..	*	*	..	..	..	*	..	3	3,926	..	..	..	181	..	..	..	..	..	110	..	..	64,451	6,797
Goondiwindi	8	..	4	..	2	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	829	4,385
Inglewood	..	..	..	..	..	..	..	*	..	1	25	..	..	..	1	..	20	..	14	..	..	..	..	4,188	1,450
Killarney	4	..	5	..	2	4	..	5	..	1	166	..	..	..	..	..	..	1	..	..	8	..	..	25,295	234

Oakey	..	..	..	..	..	..	..	..	..	1	1,428	..	..	..	960	..	100	5	115	36	204	..	..	124,544	1,173
Pittsworth	*	..	*	..	..	..	..	*	..	1	712	..	..	..	72	..	..	2	30	30	244	..	..	125,510	1,862
Stanthorpe	881	153	507	6	5	321	97	1,546	27	91	..	..	..	..	..	..	..	1	..	..	..	..	..	14,136	1,110
Texas	2	..	1	1	..	..	..	3	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	2,235	530
Toowoomba	5	..	2	1	2	7	..	1	2	19	1,078	..	..	..	220	..	..	2	..	50	223	..	..	52,203	291
Warwick	41	..	29	1	..	25	1	12	2	3	966	..	..	..	78	..	90	..	37	..	153	..	..	72,259	1,358
Total Downs	893	153	553	9	13	360	98	1,577	35	132	16,707	..	..	..	2,473	..	210	12	251	148	5,221	185	..	639,274	25,825
Maranoa Division.																									
Bollon	*	..	..	*	..	..	..	*	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	5,987
Dirranbandi	1	..	3	1	*	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17	4,715
Mitchell	*	..	*	*	..	..	..	*	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2,268	10,387
Roma	*	..	5	*	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25,829	6,394
St. George	..	..	*	..	..	*	..	1	*	1	..	..	..	..	..	..	..	..	..	..	..	..	..	13	3,402
Surat	*	..	*	*	..	*	..	*	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4,248
Yeulba	1	..	1	1	..	*	..	2	..	*	..	..	..	..	..	..	..	..	..	..	..	..	..	68	591
Total Maranoa	2	..	9	2	1	..	..	7	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	28,200	35,724
South-Western Division.																									
Adavale	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4,419
Augathella	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	7	5,264
Charleville	..	..	1	..	*	..	..	1	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	36	9,023
Cunnamulla	..	..	*	..	*	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	13	13,557
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,476
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,917
Quilpie	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	5	14,227
Thargomindah	..	..	*	..	..	..	..	*	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	5	22,819
Total South-Western	..	..	1	..	..	..	..	2	..	17	..	..	..	..	..	..	..	..	..	..	..	..	..	70	78,702
Total South Queensland	*2,564*	*502*	*1,484*	*377*	*1,038*	*936*	*156*	*3,180*	*214*	*868*	*16,956*	*20*	..	*884*	*2,510*	..	*210*	*1,280*	*596*	*148*	*5,221*	*185*	..	*1,126,539*	*170,028*
Port Curtis Division.																									
Banana	..	..	8	*	2	2	..	8	1	..	..	..	..	..	*	..	..	1	4	..	..	..	..	2,540	1,875
Gladstone	29	5	8	12	..	38	7	306	2	9	..	..	..	..	*	..	..	6	..	..	..	..	..	4,220	3,457
Monto	..	..	..	..	..	..	..	1	2	..	20	..	..	..	*	..	..	9	20	..	..	..	..	18,655	1,773
Mount Morgan	4	1	5	1	..	7	..	28	3	7	..	..	..	..	*	..	..	9	143	..	..	..	..	44,802	3,246
Rockhampton	21	4	17	3	1	18	*	71	3	33	..	..	..	4	*	..	..	3	..	..	..	..	..	7,014	13,752
St. Lawrence	*	*	..	..	..	*	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	307	7,129
Taroom	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	50	5,448
Total Port Curtis	54	10	38	16	3	65	8	415	11	50	20	..	..	4	..	..	..	28	175	..	..	..	..	77,588	36,680
Central-Western Division.																									
Alpha	*	..	*	*	..	*	..	*	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	17	7,983
Aramac	1	..	..	*	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	5	6,757
Barcaldine	*	..	1	*	..	..	..	*	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	69	3,862
Blackall	..	..	2	..	1	..	..	1	..	19	..	..	..	..	..	..	..	..	..	..	..	..	..	33	8,297
Clermont	..	*	2	*	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	238	15,011
Emerald	..	..	2	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	66	4,731
Longreach	..	..	..	..	..	..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	25	12,117
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,390
Springsure	*	*	1	*	..	*	*	*	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	102	10,230
Tambo	*	..	1	1	1	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	5,553
Total Central-Western	1	..	9	2	2	2	..	6	..	51	..	..	..	..	..	..	..	..	..	..	..	..	..	570	85,931
Far Western Division.																									
Boulia	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	3	21,027
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22,684
Isisford	..	..	*	*	..	..	..	*	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	4	7,929
Jundah	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	10,977
Windorah	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	17,832
Winton	*	..	1	*	..	*	..	*	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	5	23,146
Total Far Western	..	..	2	..	..	..	..	1	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	17	103,595
Total Central Queensland	*55*	*10*	*49*	*18*	*5*	*67*	*8*	*422*	*11*	*109*	*20*	..	..	*4*	..	..	..	*28*	*175*	..	..	..	..	*78,175*	*226,206*

* Less than half-acre.

Table No. 33—*continued.*

VEGETABLE AND MISCELLANEOUS CROPS, AREAS; AREA UNDER CROP, &c., 1936. (For Production see Table 36.)

Division.	Vegetables.										Miscellaneous Crops.													Total Areas, &c.	
	Beans.					Peas.																			
	Green.	Dried.	Cabbages and Cauliflowers.	Cucumbers.	Onions.	Green.	Dried.	Tomatoes.	Turnips.	Market Gardens.	Canary Seed.	Coffee.	Coconuts.	Cow Peas.	Grass Seed.	Linseed.	Lucerne Seed.	Mangel Wurzel.	Millet (Broom).	Millet (Seed.)	Panicum Seed.	Sunflower Seed.	Other.	Total Extent of Land under Crop.	Total Area of Petty Sessions Districts.
Edgecumbe Division.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Ac.	Sq. Mls.
Ayr	1	*	2	*	..	*	..	7	*	1	..	..	..	..	..	..	..	..	..	..	..	..	..	37,051	2,103
Bowen	1	..	3	86	1	..	..	1,337	2	12	..	..	..	..	..	..	..	..	..	..	..	..	..	2,900	1,900
Cape River	*	..	3	1	..	*	..	1	1	7	..	..	..	..	..	..	..	..	..	..	..	..	..	56	8,083
Charters Towers	1	..	2	1	..	1	..	5	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	191	9,921
Collinsville	*	..	..	..	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	32	6,310
Mackay	3	..	5	4	..	1	..	9	2	10	..	..	..	..	..	..	..	..	..	..	..	..	..	94,062	8,003
Proserpine	..	..	*	*	..	..	..	9	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	12,513	829
Ravenswood	..	..	*	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	1,152
Townsville	10	4	6	10	..	1	..	81	1	9	..	..	..	..	..	..	..	..	5	..	..	..	..	1,024	2,619
Total Edgecumbe	16	4	21	102	1	3	..	1,456	6	42	..	..	..	..	..	..	..	..	5	..	..	..	..	147,839	40,920
Rockingham Division.																									
Atherton	22	..	3	*	..	6	..	2	4	4	..	..	..	46	..	..	..	2	..	..	..	..	..	22,982	682
Cairns	1	..	3	*	..	1	..	3	..	10	..	..	..	..	*	..	..	..	..	..	..	..	..	37,559	842
Cardwell	6	..	2	..	..	..	..	51	1	3	..	..	..	..	..	..	..	..	..	..	*	..	..	11,899	1,057
Chillagoe	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	8,667
Douglas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8,965	787
Herberton	..	1	3	1	2	*	1	1	1	5	..	..	..	..	*	..	..	..	..	..	..	..	..	605	5,345
Ingham	..	*	*	..	..	..	..	*	*	1	..	..	..	..	..	..	..	..	..	..	..	..	..	33,641	3,277
Innisfail	..	*	*	*	..	*	..	*	..	1	..	..	..	..	*	..	..	..	..	..	..	..	..	33,453	572
Mareeba	1	1	13	1	..	9	..	9	..	12	..	..	..	158	..	..	..	..	..	..	..	..	..	3,989	2,842
Total Rockingham	30	2	24	2	2	16	1	66	6	36	..	..	..	204	..	..	..	2	..	..	..	..	..	153,098	24,071
Peninsula Division.																									
Coen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	25,396
Cook	2	6	1	*	*	*	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	252	23,921
Somerset	..	*	1	*	..	..	..	2	..	27	..	..	300	..	..	..	..	..	..	..	..	..	..	354	4,586
Total Peninsula	2	6	2	..	..	..	..	4	..	28	..	..	300	..	..	..	..	..	..	..	..	..	..	609	53,903
North-Western Division.																									
Burke	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	10	18,228
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,246
Cloncurry	..	..	2	*	..	..	..	2	*	3	..	..	..	..	..	..	..	..	..	..	..	..	..	31	39,468
Croydon	..	..	..	*	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	38	6,880
Etheridge	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	54	19,640
Hughenden	1	..	1	*	*	*	..	*	*	3	..	..	..	..	..	..	..	..	..	..	..	..	..	13	9,944
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,647
Mount Isa	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..	6	1,395
Norman	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	10	25,570
Richmond	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	13,354
Total North-Western	1	..	4	..	..	..	..	3	..	22	..	..	..	..	..	..	..	..	..	..	..	..	..	163	155,372
Total North Queensland	*49*	*12*	*51*	*104*	*3*	*19*	*1*	*1,529*	*12*	*128*	..	..	*300*	*204*	..	..	..	*2*	*5*	..	..	..	..	*301,709*	*274,266*
Grand Total, State—																									
1936	2,668	524	1,584	499	1,046	1,022	165	5,131	237	1,105	16,976	20	300	1,092	2,510	..	210	1,310	776	148	5,221	185	..	1,506,423	670,500
1935	2,001	13	1,347	293	1,023	1,008	91	4,659	85	950	9,438	18	320	295	1,914	..	50	429	129	635	5,121	115	..	1,334,690	670,500
Increase, 1936	667	511	237	206	23	14	74	472	152	154	7,518	2	..	797	596	..	160	881	647	..	100	70	..	171,733	..
Decrease, 1936	..	..	..	..	..	..	..	..	..	..	..	..	20	..	..	..	..	..	..	487	..	..	..	..	..

* Less than half-acre.

Table No. 34.

GRAIN AND OTHER CROPS—PRODUCTION, 1936.

(For Areas see Table No. 31.)

Division.	Grain Crops.							Hay (All Kinds).					Potatoes.		Pump-kins.	Cotton.	Sugar-cane.	Arrow-root (Tubers).	Peanuts.	Tobacco (Cured Leaf).	Grapes.
	Wheat.	Oats.	Barley.		Maize.	Rye.	Rice.	Wheat.	Oats.	Lucerne.	Other.	Total.	English.	Sweet.							
			Malting.	Other.																	
Moreton Division.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Lb.	Tons.	Tons.	Lb.	Lb.	Lb.
Brisbane (North)	9	..	..	..	3,747	..	..	..	18	311	56	385	187	275	377	876	..	1	5,312	..	427,091
Brisbane (South)	..	30	..	..	90	..	..	..	26	201	20	247	13	7	123	480	..	..	..	..	13,422
Beaudesert	..	8	6	30	76,419	..	..	1	72	5,352	238	5,663	301	276	2,395	..	..	215	..	..	1,430
Caboolture	20	..	..	..	1,564	..	..	..	..	49	..	49	74	138	53	116	..	2	..	561	800
Cleveland	..	..	56	..	60	..	..	..	10	6	5	21	11	30	44	..	8	..	31,207	..	3,788
Crow's Nest	1,506	2	..	31	102,669	..	..	17	28	688	90	823	209	11	1,312	..	..	..	..	..	1,265
Dugandan	805	140	..	..	96,141	41	..	145	50	4,909	487	5,591	1,936	135	2,203	23,067	..	3	200	..	420
Esk	..	..	..	..	12,303	..	..	..	33	687	24	744	118	211	375	8,607	..	..	..	..	3,080
Gatton	365	48	..	..	72,921	..	..	182	140	3,864	263	4,449	1,581	502	4,636	108,699	..	..	120	20	8,900
Harrisville	420	21	..	..	49,060	..	..	194	362	3,775	534	4,865	292	284	1,298	8,053	..	5	..	..	300
Ipswich	..	..	..	..	13,071	..	..	106	28	487	160	781	133	82	132	18,932	..	..	300	..	..
Kilcoy	..	..	..	..	18,070	..	..	..	8	297	22	327	103	659	351	..	..	115	..	..	100
Laidley	1,695	..	..	..	101,095	..	..	171	63	6,058	312	6,604	952	501	1,594	46,905	..	..	2,600	..	1,700
Logan	..	..	..	..	8,507	..	..	6	25	275	30	336	1,150	720	88	625	10,137	1,850	18,040	..	4,298
Lowood	..	..	..	..	43,252	..	..	29	114	1,103	168	1,414	1,419	345	1,558	33,255	..	8	112	..	209,000
Marburg	..	..	..	..	20,493	..	..	..	..	188	45	233	134	141	224	12,788	..	47	2,450	..	..
Maroochy	..	..	..	..	12,936	..	..	..	14	25	..	39	76	418	268	..	67,352	360	69,200	..	365
Redcliffe	40	1	..	..	5,041	..	..	..	6	333	47	386	186	298	299	..	135	5	7,525	..	600
Rosewood	..	..	..	..	29,959	..	..	30	138	1,568	301	2,037	109	115	692	27,742	..	41	..	..	..
Southport	..	..	..	..	15,175	..	..	5	5	56	3	69	383	198	203	..	414	6,568	170	..	830
Toogoolawah	120	..	..	..	41,151	..	..	5	28	2,204	37	2,274	396	737	2,528	37,580	..	7	..	..	9,672
Woodford	..	..	..	..	6,197	..	..	..	5	303	1	309	26	86	61	..	..	154	..	..	1,300
Wynnum	..	..	..	..	..	..	..	1	..	2	..	3	19	52	27	..	..	..	1,456	..	18,320
Oakey–Cooyar	726	..	..	..	26,857	..	..	..	1	213	3	217	105	3	783	..	..	..	..	..	..
Toowoomba–Helidon	105	..	..	..	12,434	..	..	7	26	896	196	1,125	510	547	856	26,317	..	..	1,620	..	15,030
Total Moreton	5,811	250	62	61	769,212	41	..	899	1,200	33,850	3,042	38,991	10,423	6,771	22,485	354,042	78,046	9,381	140,312	581	721,711
Wide Bay Division.																					
Biggenden	..	..	..	..	10,439	..	..	..	19	383	188	590	52	39	425	85,301	706	3	5,800	..	395
Bundaberg	..	..	..	..	5,063	..	..	..	2	333	7	342	164	171	117	3,541	440,195	35	3,923	11,439	1,990
Childers	..	..	..	..	672	..	..	..	1	12	..	13	1	6	15	17,949	148,820	..	100	..	10
Eidsvold	..	..	..	..	2,009	..	..	..	7	91	54	152	20	181	249	380,924	..	..	..	..	480
Gayndah	..	..	..	..	18,470	..	..	2	..	271	116	389	66	154	1,177	1,382,383	..	..	21,816	257	910
Gin Gin	..	..	..	..	3,997	..	..	..	8	133	20	161	48	29	37	18,982	48,078	..	428	..	1,460
Gympie	..	20	..	..	56,603	..	..	12	96	1,720	162	1,990	380	2,341	784	616	2,467	657	5,911	..	15,839
Kilkivan	170	..	..	..	5,499	..	..	70	..	393	74	537	32	54	246	16,323	..	..	..	..	..
Maryborough	..	..	..	..	2,026	..	..	44	54	603	106	807	199	30	64	1,389	58,859	5	17,554	..	5,363
Mount Perry	..	..	..	..	269	..	..	..	..	23	27	50	7	5	2	24,177	..	..	6,770	..	200
Nanango	662	1,286	..	109	381,890	..	..	..	63	2,529	117	2,709	393	353	2,787	63,483	..	15	7,690,940	..	695
Tiaro	..	..	..	..	6,523	..	..	2	14	400	27	443	221	152	173	5,961	17,218	29	1,000	..	11,439
Wienholt	2,007	1,816	..	..	375,471	..	..	19	140	6,120	493	6,772	1,282	966	5,493	451,760	..	72	6,996,775	..	2,534
Total Wide Bay	2,839	3,122	..	109	868,931	..	..	149	404	13,011	1,391	14,955	2,865	4,481	11,569	2,452,789	716,343	816	14,751,017	11,696	41,315
Downs Division.																					
Allora	203,802	1,458	2,883	1,202	115,603	..	..	334	24	1,377	175	1,910	2	..	23	..	..	..	..	..	978
Chinchilla	5,211	..	..	..	1,310	..	..	13	16	19	64	112	2	..	36	4,395	..	..	50	..	1,310
Clifton	253,923	331	7,465	3,343	182,325	..	..	350	68	1,087	644	2,149	1	..	223	..	..	..	..	..	3,210
Condamine	7,446	..	..	..	1,253	..	..	30	..	8	..	38	2	..	3	102,625	..	..	..	..	1,825
Dalby	215,248	1,701	1,800	300	9,272	..	..	12	8	127	3	150	..	..	264	29,176	..	..	..	..	7,316
Goondiwindi	830	..	..	..	80	..	..	81	..	9	8	98	20	..	10	..	..	..	..	18,820	1,265
Inglewood	2,539	401	..	195	333	..	..	5	5	103	120	233	..	..	3	1,181	..	..	..	217,000	1,920
Killarney	60,353	683	48	132	99,937	..	..	311	7	989	20	1,327	61	..	14	..	..	..	..	..	957
Oakey	361,692	2,071	2,689	2,096	75,292	..	..	316	142	973	337	1,768	54	8	1,183	1,319	..	..	..	..	7,369
Pittsworth	549,004	3,002	5,442	281	20,862	..	..	248	63	382	172	865	3	..	122	6,082	..	..	..	..	2,420
Stanthorpe	..	..	..	..	1,926	..	..	11	48	31	5	95	236	..	93	..	..	..	..	..	3,464,749
Texas	1,518	..	..	300	320	..	..	33	6	137	17	193	..	..	2	294	..	..	..	300,000	560
Toowoomba	67,439	465	3,891	438	80,458	..	..	137	78	1,122	301	1,638	137	..	133	..	..	..	1,750	..	18,926
Warwick	95,957	8,873	2,622	1,517	129,695	..	..	184	64	2,517	409	3,174	33	..	128	..	..	..	..	..	42,905
Total Downs	1,824,962	18,985	26,840	9,804	718,666	..	..	2,065	529	8,881	2,275	13,750	551	8	2,237	145,072	..	..	1,800	535,820	3,555,710

Table No. 34—*continued.*

GRAIN AND OTHER CROPS—PRODUCTION, 1936. (For Areas see Table No. 31.)

Division.	Grain Crops.							Hay (All Kinds).					Potatoes.		Pumpkins.	Cotton.	Sugarcane.	Arrowroot (Tubers).	Peanuts.	Tobacco (Cured Leaf).	Grapes.
	Wheat.	Oats.	Barley.		Maize.	Rye.	Rice.	Wheat.	Oats.	Lucerne.	Other.	Total.	English.	Sweet.							
			Malting.	Other.																	
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Lb.	Tons.	Tons.	Lb.	Lb.	Lb.
Maranoa Division.																					
Bollon	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dirranbandi	..	..	..	..	..	..	..	..	..	..	..	..	7	1	..	..	..	..	..	..	1,188
Mitchell	3,100	..	..	..	12	..	..	30	..	1	4	35	..	..	5	153	..	..	..	..	3,324
Roma	166,468	..	..	..	473	..	..	698	..	..	139	837	..	..	20	48,906	..	..	..	..	509,187
St. George	..	..	..	..	..	..	..	..	..	..	..	..	4	..	2	..	..	..	..	..	6,100
Surat	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	300
Yeulba	..	..	..	..	18	..	..	..	..	..	..	..	..	..	10	..	..	..	..	..	5,000
Total Maranoa ..	169,568	..	..	..	503	..	..	728	..	1	143	872	11	1	37	49,059	..	..	..	..	525,099
South-Western Division.																					
Adavale	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	535
Augathella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	800
Charleville	..	..	..	..	..	..	..	..	..	..	..	..	4	..	3	..	..	..	..	..	8,460
Cunnamulla	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,357
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quilpie	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	772
Thargomindah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	180
Total South-Western ..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	3	..	..	..	..	..	13,104
Total South Queensland ..	*2,003,180*	*22,357*	*26,902*	*9,974*	*2,357,312*	*41*	..	*3,841*	*2,133*	*55,743*	*6,851*	*68,568*	*13,854*	*11,261*	*36,331*	*3,000,962*	*794,389*	*10,197*	*14,893,129*	*548,097*	*4,856,939*
Port Curtis Division.																					
Banana	7,918	..	..	..	150	..	..	50	20	91	..	161	6	14	47	431,404	..	..	..	..	1,720
Gladstone	..	..	..	..	15,827	..	..	..	17	599	213	829	684	39	398	81,801	..	..	22,847	44,919	3,075
Monto	300	..	..	100	27,992	..	..	20	4	1,993	165	2,182	124	20	1,470	2,509,953	..	..	1,125	..	410
Mount Morgan	4,530	60	..	2	20,542	..	..	65	20	127	78	290	44	4	389	12,810,172	..	..	29,512	..	2,240
Rockhampton	308	..	..	..	13,278	..	..	30	62	562	476	1,130	254	138	314	293,594	..	..	732,179	..	57,118
St. Lawrence	..	..	..	..	719	..	..	..	..	105	2	107	6	..	23	5,406	2,015	..	..	..	..
Taroom	..	..	..	..	290	..	..	..	..	..	..	..	..	..	1	3,132	..	..	..	..	100
Total Port Curtis ..	13,056	60	..	102	78,798	..	..	165	123	3,477	934	4,699	1,118	215	2,642	16,135,462	2,015	..	785,663	44,919	64,663
Central-Western Division.																					
Alpha	..	..	..	..	..	..	..	10	..	..	..	10	..	..	..	..	..	..	..	..	395
Aramac	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..
Barcaldine	..	..	..	..	..	..	..	10	6	..	6	22	1	3	..	..	..	..	..	..	150
Blackall	..	..	..	..	..	..	..	..	..	..	..	..	4	..	1	..	..	..	..	..	500
Clermont	..	..	..	..	140	..	..	60	..	..	4	64	1	1	6	15,627	..	..	..	..	1,120
Emerald	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3,199	..	..	..	..	700
Longreach	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,530
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springsure	..	..	..	..	44	..	..	..	..	..	..	..	..	..	5	12,503	..	..	..	..	430
Tambo	..	..	..	..	..	..	..	..	..	..	..	..	4	2	2	..	..	..	..	..	1,000
Total Central-Western ..	..	..	..	..	184	..	..	80	6	..	10	96	10	6	19	31,329	..	..	..	..	5,825
Far Western Division.																					
Boulia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Isisford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jundah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	150
Windorah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winton	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	300
Total Far Western ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	450
Total Central Queensland ..	*13,056*	*60*	..	*102*	*78,982*	..	..	*245*	*129*	*3,477*	*944*	*4,795*	*1,128*	*221*	*2,661*	*16,166,791*	*2,015*	..	*785,663*	*44,919*	*70,938*

Edgecumbe Division.																					
Ayr	..	..	..	..	474	..	..	..	..	..	..	..	70	2	46	..	635,783	..	..	9,500	52
Bowen	..	..	..	..	859	..	..	..	..	..	5	5	122	11	665	5,078	532	..	1,200	68,692	50
Cape River	..	..	..	..	75	..	..	..	..	..	..	..	7	3	19	..	..	..	228	..	6,154
Charters Towers	..	..	..	..	3	..	..	1	..	1	30	32	14	3	18	..	..	..	..	500	43,696
Collinsville	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	987	..	..	..	3,300	120
Mackay	..	..	..	..	617	..	..	..	..	..	20	20	80	21	42	13,389	1,148,824	..	240	80,000	2,152
Proserpine	..	..	..	..	20	..	..	..	..	..	..	..	6	..	3	..	127,389	..	..	..	..
Ravenswood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3,360	..
Townsville	..	..	..	..	110	..	..	..	..	..	42	42	265	7	86	..	3,173	..	3,978	59,463	130
Total Edgecumbe ..	..	..	..	..	2,158	..	..	1	..	1	97	99	564	47	892	19,454	1,915,701	..	5,646	224,815	52,354
Rockingham Division.																					
Atherton	..	..	400	..	697,020	..	..	59	..	183	29	271	75	380	53	..	..	7	837,601	6,000	200
Cairns	..	..	..	..	120	..	..	..	..	..	..	..	..	12	2	..	884,856	..	..	..	..
Cardwell	..	..	..	..	70	..	..	..	..	..	..	..	2	4	11	2,404	217,237	..	..	..	..
Chillagoe	..	..	..	..	33	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..
Douglas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	152,198	..	..	..	..
Herberton	..	..	..	..	3,674	..	..	44	4	..	2	50	26	3	23	..	..	..	..	7,595	13,679
Ingham	..	..	..	..	120	..	..	..	..	..	..	..	22	1	..	115	554,514	..	..	..	..
Innisfail	..	..	..	..	120	..	..	..	..	..	..	..	..	..	..	362	649,661	..	..	..	..
Mareeba	..	..	..	..	2,250	..	..	..	..	..	3	3	144	18	46	8,512	..	..	396,266	1,173,605	30
Total Rockingham ..	..	..	400	..	708,407	..	..	103	4	183	34	324	269	419	135	11,393	2,458,466	7	1,233,867	1,187,200	13,909
Peninsula Division.																					
Coen	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..
Cook	..	..	..	..	995	..	..	..	..	..	..	..	4	7	5	..	..	..	104,694	..	..
Somerset	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
Total Peninsula ..	..	..	..	..	995	..	..	..	..	..	..	..	4	10	6	..	..	..	104,694	..	..
North-Western Division.																					
Burke	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	100	..	..
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	..	..	..	..	..	..	..	..	..	..	1	1	11	..	..	..	..	..	3,661
Croydon	..	..	..	..	480	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Etheridge	..	..	..	..	460	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	50
Hughenden	..	..	..	..	..	..	..	..	..	..	..	..	6	..	2	..	..	..	..	..	..
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Norman	..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Richmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total North-Western ..	..	..	..	..	960	..	..	..	..	1	..	1	7	1	13	..	..	..	100	..	3,711
Total North Queensland ..	..	..	*400*	..	*712,520*	..	..	*104*	*4*	*185*	*131*	*424*	*844*	*477*	*1,046*	*30,847*	*4,374,167*	*7*	*1,344,307*	*1,412,015*	*69,974*
Grand Total, State—																					
1936	2,016,236	22,417	27,302	10,076	3,148,814	41	..	4,190	2,266	59,405	7,926	73,787	15,826	11,959	40,038	19,198,600	5,170,571	10,204	17,023,099	2,005,031	4,997,851
1935	2,690,316	119,459	64,891	26,475	3,504,045	2,764	..	1,737	3,284	113,068	4,598	122,687	24,765	10,691	33,341	20,785,418	4,220,435	10,239	9,635,614	1,555,083	5,219,521
Increase, 1936	..	..	..	..	..	..	..	2,453	..	..	3,328	..	..	1,268	6,697	..	950,136	..	7,387,485	449,948	..
Decrease, 1936 ..	674,080	97,042	37,589	16,399	355,231	2,723	..	..	1,018	53,663	..	48,900	8,939	..	..	1,586,818	..	35	..	..	221,670

Table No. 35.

FRUIT CROPS—PRODUCTION, 1936. (For Areas see Table No. 32.)

Division.	Apples.	Apricots.	Bananas.	Cherries.	Custard Apples.	Figs.	Gooseberries (Cape).	Lemons.	Mangoes.	Nectarines.	Oranges and Mandarins.	Passion Fruit.	Papaws.	Peaches.	Pears.	Persimmons.	Pineapples.	Plums.	Quinces.	Strawberries.	Water-melons and Rock-Melons.
	Bushels.	Bushels.	Bunches.	Bushels.	Bushels.	Bushels.	Quarts.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Dozens.	Bushels.	Bushels.	Bushels.	Dozens.	Bushels.	Bushels.	Quarts.	Dozens.
Moreton Division.																					
Brisbane (North)	2	30	50,786	..	734	..	..	57	382	..	292	250	52,103	2,654	40	63	73,934	30	..	8,010	7,478
Brisbane (South)	..	..	650	..	2,484	5,339	240	8	242	..	819	..	25,426	..	..	98	22,324	..	..	3,315	252
Beaudesert	..	11	2,100	..	1	..	..	127	54	..	962	..	18	24	37	..	..	21	..	..	28
Caboolture	..	..	62,423	..	54	..	2,200	1,242	249	..	13,196	250	279	10	..	..	79,263	..	..	1,980	176
Cleveland	..	..	30,345	..	9,065	76	..	1,735	185	..	812	1,173	22,581	9	..	45	75,914	..	..	122,865	1,203
Crow's Nest	6	47	..	..	..	..	..	1,994	..	..	676	..	..	41	2	..	..	25	..	..	35
Dugandan	5	..	200	..	2	..	92	19	13	..	119	15	88	52	1	..	108	5	6	..	210
Esk	..	1	2,947	..	..	..	..	1,183	..	..	2,166	188	137	5	..	3	..	..	..	..	15
Gatton	..	1	..	..	..	..	..	48	..	..	6,784	..	..	11	..	..	..	30	..	..	206
Harrisville	..	2	..	..	..	2	480	9	2	..	125	..	..	21	1	..	..	..	..	..	211
Ipswich	..	..	..	..	..	..	..	5	21	..	280	..	..	..	..	..	5,026	..	..	400	140
Kilcoy	1	1	2,950	..	..	..	..	20	..	..	123	..	..	4	..	..	50	1	..	..	20
Laidley	1	..	300	..	..	..	..	41	13	..	88	..	105	9	..	..	177	..	..	..	30
Logan	..	..	157,586	..	9,502	..	..	749	986	..	5,395	6,394	892	4	..	..	6,745	3	..	480	88
Lowood	..	..	..	..	..	..	..	22	..	..	619	..	..	..	..	..	6,174	..	..	..	150
Marburg	1	1	..	..	..	..	4,200	1	14	..	7	..	..	22	..	..	595	7	..	..	15
Maroochy	..	..	283,248	..	485	..	..	1,492	3,085	..	93,826	1,826	8,149	12	11	..	565,765	2	..	95,264	254
Redcliffe	..	..	43,043	..	2	..	..	12	750	..	897	..	342	9	..	..	16,839	4	..	740	10,234
Rosewood	..	..	..	..	..	..	..	1	..	..	2	..	..	6	..	..	..	..	..	..	3
Southport	6	1	491,454	..	1	..	..	103	163	..	5,069	260	1,263	15	2	..	640	3	..	1,000	325
Toogoolawah	1	5	..	..	1	..	..	51	2	..	271	..	2	31	1	..	..	..	..	4	621
Woodford	2	1	57,743	..	7	..	..	44	37	..	374	..	48	40	..	..	2,589	..	..	6	10
Wynnum	..	..	13,661	..	158	213	..	1	2	..	..	..	2,725	..	..	..	8,649	..	..	5,660	454
Oakey-Cooyar	2	7	..	..	..	..	..	6	..	..	5	..	..	11	2	..	..	4	..	..	5
Toowoomba-Helidon	..	7	..	..	..	..	..	38	12	..	2,849	..	..	6	..	..	..	..	..	..	621
Total Moreton	27	115	1,199,436	..	22,496	5,630	7,212	9,008	6,212	..	135,756	10,356	114,158	2,996	97	209	864,792	135	6	239,724	22,784
Wide Bay Division.																					
Biggenden	4	..	3,112	..	4	..	..	102	86	..	265	..	66	18	1	..	548	1	..	..	155
Bundaberg	..	..	15,996	..	537	..	..	89	2,483	..	4,550	50	137	15	3	..	6,510	..	..	922	349
Childers	..	..	31	..	24	..	..	38	571	..	5,469	..	68	17	1	..	146	..	..	..	9
Eidsvold	..	..	..	..	..	..	..	3	..	..	95	200	..	12	1	..	..	3	..	..	7
Gayndah	..	..	1,806	..	13	..	..	7,346	10	..	25,429	200	131	11	..	..	447	..	..	..	422
Gin Gin	..	..	340	..	29	..	..	54	923	..	613	..	31	23	2	..	735	..	..	170	38
Gympie	16	..	109,379	..	137	..	..	261	2,274	..	3,431	30	12,906	65	55	50	210,252	5	..	2,620	417
Kilkivan	2	..	..	..	2	..	..	6	22	..	5	..	..	1	..	..	7	..	..	..	..
Maryborough	..	..	3,613	..	271	..	..	98	2,801	..	48,549	233	733	3	..	..	32,706	17	..	300	753
Mount Perry	..	..	200	..	8	..	..	25	50	..	386	..	..	1	..	..	20	..	..	..	12
Nanango	3	37	..	..	..	..	..	64	..	..	160	..	..	72	12	..	60	33	..	..	91
Tiaro	1	..	5,670	..	106	..	..	41	524	..	1,058	..	4,960	24	..	..	5,412	2	..	..	166
Wienholt	3	8	..	..	1	..	..	45	..	..	204	..	1	60	2	..	105	11	..	..	531
Total Wide Bay	29	45	140,147	..	1,132	..	..	8,172	9,744	..	90,214	713	19,033	322	77	50	256,948	72	..	4,012	2,950
Downs Division.																					
Allora	1	14	..	..	..	..	..	25	..	..	762	..	..	6	61	..	..	4	..	..	12
Chinchilla	..	22	..	..	..	..	..	15	..	..	130	..	..	122	..	..	..	1	..	..	15
Clifton	..	102	..	..	..	2	..	3	..	1	44	..	..	29	5	..	..	5	4	..	..
Condamine	..	..	..	..	..	10	..	4	..	..	92	..	..	19	1	..	..	..	..	..	60
Dalby	1	29	..	..	..	6	..	12	..	..	298	..	..	28	6	..	..	8	..	..	23
Goondiwindi	..	..	..	..	..	20	..	2	..	..	404	..	..	11	1	..	..	6	..	..	35
Inglewood	4	40	..	..	..	3	..	17	..	..	14	..	..	138	..	..	..	8	3	..	58
Killarney	7	20	..	..	..	3	..	11	..	..	8	..	..	20	14	..	..	7	..	..	15
Oakey	2	44	..	..	..	..	..	33	..	..	56	..	..	43	3	..	..	25	..	..	126
Pittsworth	4	23	..	..	..	1	..	7	..	..	11	..	..	21	6	..	..	4	..	..	56
Stanthorpe	206,750	5,556	..	116	..	..	..	1	..	2,047	..	42	..	71,499	20,862	10	..	62,192	757	..	212
Texas	..	10	..	..	..	2	..	3	..	..	22	..	..	35	..	..	..	10	..	..	43
Toowoomba	36	479	..	..	..	..	..	199	..	..	672	..	..	216	26	19	..	160	..	..	2
Warwick	8,326	777	..	..	..	7	..	520	..	4	36	..	..	644	291	3	..	1,605	..	..	60
Total	215,131	7,116	..	116	..	54	..	852	..	2,052	2,549	42	..	72,831	21,276	32	..	64,035	764	..	717

Maranoa Division.																					
Bollon	..	..	..	..	..	..	..	23	..	..	52	..	..	..	..	..	..	..	..	..	..
Dirranbandi	..	3	..	..	..	..	..	4	..	..	100	..	..	19	..	..	..	3	..	..	40
Mitchell	..	..	..	..	..	..	..	8	..	..	153	..	..	1	..	..	..	..	..	..	10
Roma	4	32	..	..	..	..	..	19	..	..	2,755	..	..	73	1	..	..	..	..	..	356
St. George	..	..	..	..	..	..	..	16	..	..	92	..	..	14	8	..	..	2	..	..	25
Surat	..	2	..	..	..	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	3
Yeulba	1	..	..	..	..	..	..	5	..	..	91	..	..	4	2	..	..	1	..	..	10
Total Maranoa	5	37	..	..	..	..	..	75	..	..	3,245	..	..	112	11	..	..	6	..	..	444
South-Western Division.																					
Adavale	..	..	..	..	..	..	..	..	..	..	4	..	..	3	..	..	..	..	..	..	..
Augathella	..	6	..	..	..	..	..	13	..	..	195	..	..	2	..	..	..	..	..	..	20
Charleville	..	22	..	..	..	5	..	175	..	..	1,011	..	..	64	..	..	..	48	..	..	46
Cunnamulla	..	..	..	..	..	..	..	22	..	..	683	..	..	22	..	..	..	..	..	..	..
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quilpie	..	2	..	..	..	..	..	18	..	..	32	..	..	4	..	..	..	..	..	..	4
Thargomindah	..	..	..	..	..	..	..	1	..	..	22	..	..	..	..	..	..	..	..	..	..
Total South-Western	..	30	..	..	..	5	..	229	..	..	1,947	..	..	95	..	..	..	48	..	..	70
Total South Queensland	*215,202*	*7,343*	*1,339,583*	*116*	*23,628*	*5,689*	*7,212*	*18,336*	*15,956*	*2,052*	*233,711*	*11,111*	*143,191*	*76,356*	*21,161*	*291*	*1,121,740*	*64,296*	*770*	*243,736*	*26,965*
Port Curtis Division.																					
Banana	..	..	..	..	..	..	..	3	..	..	75	..	..	15	..	..	..	6	..	..	162
Gladstone	..	..	13,833	..	153	..	..	177	814	..	2,113	40	15,458	15	..	..	2,744	..	..	..	389
Monto	..	..	..	..	..	..	..	..	..	..	7	..	2	16	..	..	..	..	..	..	50
Mount Morgan	..	..	..	..	28	..	..	51	261	..	1,928	..	80	24	..	..	710	2	..	..	178
Rockhampton	..	..	54,263	..	341	..	..	651	2,883	..	17,501	254	5,607	24	..	..	36,096	..	..	2,592	1,549
St. Lawrence	..	..	1,680	..	7	..	..	8	50	..	165	..	986	1	..	..	2,323	..	..	..	20
Taroom	..	..	..	..	..	..	..	3	..	..	60	..	..	13	..	..	..	..	..	..	..
Total Port Curtis	..	..	69,776	..	529	..	..	893	4,008	..	21,849	294	22,133	108	..	..	41,873	8	..	2,592	2,348
Central-Western Division.																					
Alpha	..	..	..	..	..	..	..	3	..	..	38	..	1	2	..	..	..	..	..	..	3
Aramac	..	..	..	..	..	..	..	..	..	..	20	..	..	..	..	..	..	..	..	..	50
Barcaldine	..	..	..	..	..	..	..	2	6	..	46	..	..	..	..	..	..	..	..	..	45
Blackall	..	..	..	..	..	..	..	9	..	..	275	..	..	30	..	..	..	..	..	..	6
Clermont	..	..	..	..	..	4	..	5	..	..	104	..	..	1	..	..	..	..	..	..	4
Emerald	..	..	..	..	..	..	..	291	..	..	6,790	..	..	..	..	..	..	..	..	..	..
Longreach	..	..	..	..	..	6	..	15	30	..	23	..	..	2	..	..	..	..	..	..	30
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springsure	..	..	..	..	..	..	..	8	1	..	50	..	1	20	..	..	..	..	..	..	13
Tambo	..	..	..	..	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	20
Total Central-Western	..	..	..	..	..	10	..	333	37	..	7,376	..	2	55	..	..	..	..	..	..	171
Far-Western Division.																					
Boulia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Isisford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	35
Jundah	..	..	..	..	..	..	..	5	..	..	20	..	..	1	..	..	..	..	..	..	..
Windorah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winton	..	..	..	..	..	..	..	1	10	..	13	..	..	..	..	..	..	..	..	..	20
Total Far Western	..	..	..	..	..	..	..	6	10	..	33	..	..	1	..	..	..	..	..	..	55
Total Central Queensland	..	..	*69,776*	..	*529*	*10*	..	*1,232*	*4,055*	..	*29,258*	*294*	*22,135*	*164*	..	..	*41,873*	*8*	..	*2,592*	*2,574*

Table No. 35—*continued.*

FRUIT CROPS—PRODUCTION, 1936. (For Areas see Table No. 32.)

Division.	Apples.	Apricots.	Bananas.	Cherries.	Custard Apples.	Figs.	Goose-berries (Cape).	Lemons.	Mangoes.	Nec-tarines.	Oranges and Man-darins.	Passion Fruit.	Papaws.	Peaches.	Pears.	Per-simmons.	Pine-apples.	Plums.	Quinces.	Straw-berries.	Water-melons and Rock-Melons.
	Bushels.	Bushels.	Bunches.	Bushels.	Bushels.	Bushels.	Quarts.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Dozens.	Bushels.	Bushels.	Bushels.	Dozens.	Bushels.	Bushels.	Quarts.	Dozens.
Edgecumbe Division.																					
Ayr	..	..	4,456	..	15	..	..	94	401	..	749	..	77	4	..	..	127	..	..	..	275
Bowen	..	..	1,588	..	50	..	..	110	11,287	..	821	..	5	..	..	..	29,446	..	..	..	1,156
Cape River	..	..	..	..	..	..	..	218	6	..	1,371	..	..	21	..	..	..	..	..	..	170
Charters Towers	..	..	..	..	3	..	..	243	63	..	3,662	..	..	..	..	..	..	..	..	..	125
Collinsville	..	..	..	..	..	..	..	3	..	..	5	..	..	..	..	..	..	..	..	..	..
Mackay	2	..	9,360	..	294	..	..	1,326	6,807	..	3,662	..	789	14	..	30	3,116	2	..	45	468
Proserpine	..	..	20	..	145	..	..	300	1,793	..	1,590	..	1	2	..	..	49	..	..	..	12
Ravenswood	..	..	..	..	1	..	..	3	1	..	140	..	1	..	..	..	..	..	..	..	65
Townsville	..	..	4,152	..	46	..	..	290	2,703	..	2,061	..	322	..	..	..	25,356	..	..	500	506
Total Edgecumbe	2	..	19,576	..	554	..	..	2,587	23,061	..	14,061	..	1,195	41	..	30	58,094	2	..	545	2,777
Rockingham Division.																					
Atherton	5	..	444	..	33	..	..	173	202	..	1,422	..	107	24	..	8	232	4	..	100	16
Cairns	..	..	10,868	..	12	..	..	167	681	..	7,302	..	764	3	..	..	3,016	..	..	..	..
Cardwell	..	..	2,612	..	5	..	..	87	1	..	15,111	..	135	..	..	..	643	..	..	..	..
Chillagoe	..	..	100	..	..	..	..	5	6	..	14	..	14	..	..	..	2	..	..	..	2
Douglas	..	..	36	..	5	..	..	137	717	..	274	..	13	..	..	..	..	..	..	..	..
Herberton	70	..	18	..	1	..	..	125	2	..	537	..	..	51	30	5	..	323	..	..	..
Ingham	..	..	1,375	..	113	..	..	924	4,385	..	2,897	..	144	14	..	..	1,706	..	..	..	18
Innisfail	..	..	1,940	..	4	..	..	154	43	..	689	20	40	..	..	..	55	..	..	..	3
Mareeba	..	..	531	..	40	..	..	140	1,037	..	441	..	212	8	..	..	246	..	..	..	309
Total Rockingham	75	..	17,924	..	213	..	..	1,912	7,074	..	28,687	20	1,429	100	30	13	5,900	327	..	100	348
Peninsula Division.																					
Coen	..	..	2	..	..	..	..	1	81	..	4	..	7	..	..	..	1	..	..	..	..
Cook	..	..	345	..	6	..	..	..	400	..	1,043	..	..	..	..	..	86	..	..	..	5
Somerset	..	..	18	..	..	..	..	24	4	..	12	..	80	..	..	..	40	..	..	..	..
Total Peninsula	..	..	365	..	6	..	..	25	485	..	1,059	..	87	..	..	..	127	..	..	..	5
North-Western Division.																					
Burke	..	..	20	..	..	..	..	8	130	..	10	..	20	..	..	..	..	..	..	..	13
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	..	..	..	4	..	38	21	..	88	..	..	..	..	..	..	..	..	..	178
Croydon	..	..	..	..	..	..	..	..	14	..	..	..	..	..	..	..	..	..	..	..	12
Etheridge	..	..	..	..	1	..	..	4	32	..	27	..	..	..	..	..	..	..	..	..	40
Hughenden	..	..	..	..	..	..	..	2	9	..	500	..	..	1	..	..	..	..	..	..	34
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	166
Norman	..	..	..	..	..	..	..	1	315	..	32	..	10	..	..	..	..	..	..	..	10
Richmond	..	..	..	..	..	..	..	6	..	..	6	..	..	..	..	..	..	..	..	..	..
Total North-Western	..	..	20	..	1	4	..	59	521	..	663	..	30	1	..	..	..	..	..	..	453
Total North Queensland	*77*	..	*37,885*	..	*774*	*4*	..	*4,583*	*31,141*	..	*44,470*	*20*	*2,741*	*142*	*30*	*43*	*64,121*	*329*	..	*645*	*3,583*
Grand Total, State—																					
1936	215,279	7,343	1,447,244	116	24,931	5,703	7,212	24,151	51,152	2,052	307,439	11,425	158,067	76,662	21,491	334	1,227,734	64,633	770	246,973	33,122
1935	249,998	5,323	1,733,378	100	36,520	2,632	5,324	18,013	18,715	853	287,769	5,683	172,437	91,786	17,029	404	1,333,415	63,712	139	218,000	*a*
Increase, 1936	..	2,020	..	16	..	3,071	1,888	6,138	32,437	1,199	19,670	5,742	..	..	4,462	..	..	921	631	28,973	..
Decrease, 1936	34,719	..	286,134	..	11,589	..	..	..	..	..	..	..	14,370	15,124	..	70	105,681	..	..	..	..

a Not available.

Table No. 36.

VEGETABLE AND MISCELLANEOUS CROPS—PRODUCTION, 1936. (For Areas see Table No. 33.)

Division.	Vegetables.									Miscellaneous Crops.											
	Beans.		Cabbages and Cauliflowers.	Cucumbers.	Onions.	Peas.		Tomatoes.	Turnips.	Canary Seed.	Coffee.	Copra.	Cow Peas.	Grass Seed.	Linseed.	Lucerne Seed.	Mangel Wurzel.	Millet (Broom).	Millet (Seed).	Panicum Seed.	Sunflower Seed.
	Green.	Dried.				Green.	Dried.														
	Bags.	Bushels.	Dozen.	Dozen.	Cwt.	Bags.	Bushels.	Bushels.	Tons.	Cwt.	Lb.	Tons.	Bushels.	Cwt.	Lb.	Cwt.	Tons.	Lb. Straw.	Cwt.	Cwt.	Cwt.
Moreton Division.																					
Brisbane (North)	6,870	422	40,654	15,625	..	8,809	314	31,847	45	30	..	..	..	..	..	..	4	300	..	..	..
Brisbane (South)	788	250	19,119	9,338	10	1,142	380	10,657	33	..	..	..	80	..	..	..	1	..	..	..	..
Beaudesert	40	6	140	11	..	132	..	46	26	..	..	..	360	10	..	..	529	..	..	..	..
Caboolture	180	11	375	892	..	6	..	377	7	..	..	..	..	..	..	..	46	..	..	..	..
Cleveland	8,907	2,216	127,147	63,786	4	1,430	170	81,884	3	..	..	..	..	..	..	..	3	..	..	..	..
Crow's Nest	..	..	..	..	..	112	..	..	..	..	..	..	..	94	..	..	31	..	..	..	..
Dugandan	1,494	..	3,796	4,058	..	310	..	1,887	47	..	..	..	..	..	..	..	454	4,290	..	..	..
Esk	73	..	60	..	..	6	..	74	4	..	..	..	..	1	..	..	58	..	..	..	..
Gatton	54	..	942	232	16,856	..	..	560	15	..	..	..	..	533	..	..	73	4,144	..	..	..
Harrisville	33	..	..	105	44	174	..	861	2	6	..	..	..	202	..	..	196	..	..	..	..
Ipswich	90	75	450	19	12	181	..	160	2	..	..	..	..	..	..	..	17	2,240	..	..	..
Kilcoy	..	..	170	..	..	..	..	191	10	..	..	..	..	..	..	..	327	..	..	..	..
Laidley	34	..	300	..	8,480	33	2	306	12	4	..	..	..	116	..	..	200	33,781	..	..	..
Logan	4,160	313	36,939	4,570	..	6,701	338	33,260	14	..	..	..	1,964	..	..	..	4	..	..	..	..
Lowood	160	..	260	280	5,032	15	..	30	5	..	..	..	..	31	..	..	197	..	..	..	..
Marburg	115	..	6	36	5	441	..	2,417	..	..	..	..	..	..	..	..	178	..	..	..	..
Maroochy	9,726	7,073	638	4,151	3	607	90	1,891	14	..	4,030	..	..	..	..	..	69	..	..	..	..
Redcliffe	124	35	7,230	5,556	300	413	90	2,700	2	..	..	..	..	..	..	..	..	..	..	..	..
Rosewood	50	120	..	10	3	98	..	529	..	..	..	..	200	..	..	..	75	..	..	..	..
Southport	1,148	650	1,211	277	..	632	..	490	2	..	..	..	..	75	..	..	7	..	..	..	..
Toogoolawah	..	1	53	13	398	..	..	28	21	..	..	..	..	..	..	..	645	..	..	..	..
Woodford	..	..	8	83	..	..	..	1,000	..	..	..	..	..	3	..	..	2	..	..	..	..
Wynnum	549	54	360	850	..	375	290	11,464	7	..	..	..	..	..	..	..	..	..	..	..	..
Oakey–Cooyar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	..	..	..	..
Toowoomba–Helidon	158	..	300	300	98	70	..	556	11	..	..	..	..	..	..	..	35	..	..	..	..
Total Moreton	34,753	11,226	240,158	110,192	31,245	21,687	1,674	182,215	282	40	4,030	..	2,604	1,065	..	..	3,175	44,755	..	..	..
Wide Bay Division.																					
Biggenden	..	5	195	70	..	8	..	55	8	..	..	..	1,603	26	..	..	60	500	..	..	..
Bundaberg	128	22	2,488	743	1	174	70	529	..	..	..	..	..	..	..	..	7	..	..	..	..
Childers	..	..	32	9	..	100	..	4	5	..	..	..	..	2	..	..	..	..	..	..	..
Eidsvold	..	3	5	20	..	..	..	4	..	..	..	..	..	97	..	..	38	..	..	..	..
Gayndah	..	..	36	27	3	10	146	..	4	..	..	..	1,985	243	..	..	294	13,983	..	4	..
Gin Gin	4	..	122	48	..	3	5	105	2	..	..	..	..	..	..	..	..	300	..	..	..
Gympie	60,762	6,704	5,048	9,603	9	1,305	30	971	44	..	5,200	..	..	146	..	..	136	..	..	..	..
Kilkivan	19	50	150	..	..	50	..	..	8	..	..	..	..	..	..	..	26	..	..	..	..
Maryborough	302	9	3,055	231	..	344	10	1,079	15	..	..	..	..	..	..	..	..	..	..	..	..
Mount Perry	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nanango	8	4	39	138	10	2	..	9	19	40	..	..	1,899	246	..	..	143	4,424	..	..	..
Tiaro	3,544	1,458	606	579	..	464	10	524	10	..	..	..	..	..	..	..	77	..	..	..	..
Wienholt	670	13	874	517	3,727	1,054	40	120	15	..	..	..	1,563	32	..	..	1,299	450	..	..	..
Total Wide Bay	65,437	8,268	12,650	11,985	3,750	3,514	311	3,400	130	40	5,200	..	7,050	792	..	..	2,080	19,657	..	4	..
Downs Division.																					
Allora	40	..	20	10	22	20	..	175	..	1,791	..	..	..	674	..	..	..	..	..	3,055	..
Chinchilla	..	..	74	2	..	2	..	23	2	..	..	..	..	4	..	..	..	..	..	..	..
Clifton	..	..	..	..	..	..	..	..	..	4,807	..	..	..	3,270	..	..	..	128,150	372	13,534	383
Condamine	50	..	610	50	..	50	..	120	..	..	..	..	..	36	..	..	..	..	..	..	..
Dalby	..	..	10	4	..	..	..	3	..	4,826	..	..	..	297	..	..	..	..	..	1,194	..
Goondiwindi	50	..	50	..	100	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Inglewood	..	..	..	..	..	..	..	20	..	..	..	..	..	3	..	11	..	..	..	..	..
Killarney	234	..	659	..	19	238	..	262	..	322	..	..	..	..	..	..	2	..	..	159	..
Oakey	..	..	..	..	..	..	..	..	..	2,032	..	..	..	4,883	..	25	24	20,160	259	860	..
Pittsworth	1	..	8	..	..	..	..	25	..	344	..	..	..	284	..	..	..	8,000	400	977	..
Stanthorpe	60,003	7,165	44,248	1,034	142	16,281	3,075	118,184	63	..	..	..	..	..	..	..	3	..	..	..	..
Texas	15	..	..	50	..	..	..	166	..	..	..	..	..	..	..	..	..	..	..	..	..
Toowoomba	486	..	923	166	63	436	..	89	4	1,221	..	..	..	665	..	..	..	..	165	1,940	..
Warwick	2,194	..	2,850	273	..	754	24	992	5	468	..	..	..	308	..	51	..	..	..	231	..
Total Downs	63,073	7,165	49,452	1,589	346	17,781	3,099	120,059	74	15,811	..	..	..	10,424	..	87	29	156,310	1,196	21,950	383

Table No. 36—*continued.*

VEGETABLE AND MISCELLANEOUS CROPS—PRODUCTION, 1936. (For Areas see Table No. 33.)

Division.	Vegetables.									Miscellaneous Crops.											
	Beans.		Cabbages and Cauliflowers.	Cucumbers.	Onions.	Peas.		Tomatoes.	Turnips.	Canary Seed.	Coffee.	Copra.	Cow Peas.	Grass Seed.	Linseed.	Lucerne Seed.	Mangel Wurzel.	Millet (Broom).	Millet (Seed).	Panicum Seed.	Sunflower Seed.
	Green.	Dried.				Green.	Dried.														
	Bags.	Bushels.	Dozen.	Dozen.	Cwt.	Bags.	Bushels.	Bushels.	Tons.	Cwt.	Lb.	Tons.	Bushels.	Cwt.	Lb.	Cwt.	Tons.	Lb. Straw.	Cwt.	Cwt.	Cwt.
Maranoa Division.																					
Bollon	10	..	..	10	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Dirranbandi	34	..	354	100	11	..	..	61	..	..	..	..	..	..	..	..	..	..	..	..	..
Mitchell	2	..	11	1	..	..	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Roma	1	..	166	30	5	..	..	43	..	..	..	..	..	..	..	..	..	..	..	..	..
St. George	..	..	50	..	..	20	..	60	1	..	..	..	..	..	..	..	..	..	..	..	..
Surat	10	..	66	50	..	2	..	35	..	..	..	..	..	..	..	..	..	..	..	..	..
Yeulba	22	..	140	184	..	10	..	430	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Maranoa	79	..	787	375	16	32	..	641	1	..	..	..	..	..	..	..	..	..	..	..	..
South-Western Division.																					
Adavale	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Augathella	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Charleville	..	..	120	..	10	..	..	130	..	..	..	..	..	..	..	..	..	..	..	..	..
Cunnamulla	..	1	20	..	15	..	..	60	..	..	..	..	..	..	..	..	..	..	..	..	..
Eulo	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hungerford	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Quilpie	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thargomindah	..	..	12	..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Total South-Western	..	1	152	..	25	..	..	210	..	..	..	..	..	..	..	..	..	..	..	..	..
Total South Queensland	*163,342*	*26,660*	*303,199*	*124,141*	*35,382*	*43,014*	*5,084*	*307,525*	*487*	*15,891*	*9,230*	..	*9,654*	*12,281*	..	*87*	*5,279*	*220,722*	*1,196*	*21,954*	*383*
Port Curtis Division.																					
Banana	..	..	2,432	5	120	20	..	791	33	..	..	..	..	450	..	..	6	700	..	..	..
Gladstone	1,025	167	379	4,776	..	1,395	68	20,915	7	..	..	..	..	3	..	..	20	..	..	..	..
Monto	..	..	..	..	..	..	..	30	13	..	..	..	..	31	..	..	30	6,725	..	..	..
Mount Morgan	84	14	990	211	..	180	..	2,603	91	..	..	..	..	140	..	..	8	46,307	..	..	..
Rockhampton	554	79	3,471	989	40	547	1	3,947	24	..	..	..	160	2	..	..	16	..	..	..	..
St. Lawrence	4	10	..	..	..	7	36	31	..	..	..	..	..	..	..	..	..	..	..	..	..
Taroom	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,800	..	..	..
Total Port Curtis	1,667	270	7,272	5,981	160	2,149	105	28,317	168	..	..	..	160	626	..	..	80	56,532	..	..	..
Central-Western Division.																					
Alpha	6	..	50	40	..	12	..	20	..	..	..	..	..	..	..	..	..	..	..	..	..
Aramac	25	..	..	60	..	..	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..
Barcaldine	18	..	204	50	..	..	..	350	..	..	..	..	..	..	..	..	..	..	..	..	..
Blackall	..	..	106	..	30	..	..	40	..	..	..	..	..	..	..	..	..	..	..	..	..
Clermont	..	20	100	30	..	20	..	16	..	..	..	..	..	..	..	..	..	..	..	..	..
Emerald	..	..	276	150	..	..	..	400	..	..	..	..	..	..	..	..	..	..	..	..	..
Longreach	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Muttaburra	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Springsure	7	3	107	32	..	6	4	18	..	..	..	..	..	..	..	..	..	..	..	..	..
Tambo	20	..	122	65	21	40	..	41	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Central-Western	76	23	965	427	51	78	4	910	..	..	..	..	..	..	..	..	..	..	..	..	..

Far Western Division.																					
Boulia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diamantina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Isisford	..	..	125	40	..	..	..	50	..	..	..	..	..	..	..	..	..	..	..	..	..
Jundah	..	..	30	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..
Windorah	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Winton	12	..	160	8	..	13	..	62	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Far-Western	12	..	315	48	..	13	..	119	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Central Queensland	*1,755*	*293*	*8,552*	*6,456*	*211*	*2,240*	*109*	*29,346*	*168*	..	..	..	*160*	*626*	..	..	*80*	*56,532*	..	..	..
Edgecumbe Division.																					
Ayr	6	50	34	1	..	1	..	485	2	..	..	..	..	..	..	..	..	..	..	..	..
Bowen	52	..	195	48,200	1	..	..	126,337	..	..	..	..	..	..	..	..	..	..	..	..	..
Cape River	10	..	1,006	265	..	4	..	264	8	..	..	..	..	..	..	..	..	..	..	..	..
Charters Towers	208	..	365	239	..	290	..	1,050	..	..	..	..	..	..	..	..	..	..	..	..	..
Collinsville	30	..	..	..	..	..	..	402	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackay	779	..	1,166	1,066	..	105	..	503	5	..	..	..	..	..	..	..	..	..	..	..	..
Proserpine	..	..	41	71	..	357	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ravenswood	..	..	33	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..
Townsville	781	140	730	2,269	..	8	..	8,510	4	..	..	..	..	..	..	..	..	3,000	..	..	..
Total Edgecumbe	1,866	190	3,570	52,111	1	765	..	137,554	19	..	..	..	..	..	..	..	..	3,000	..	..	..
Rockingham Division.																					
Atherton	430	..	258	6	..	93	..	220	3	..	..	..	392	14	..	..	10	..	..	..	..
Cairns	93	..	754	24	..	24	..	58	..	..	..	..	..	..	..	..	..	..	..	..	..
Cardwell	333	..	100	..	..	..	..	836	1	..	..	..	..	..	..	..	..	..	..	7	..
Chillagoe	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Douglas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Herberton	..	23	768	250	..	3	1	64	2	..	..	..	..	15	..	..	..	..	..	..	..
Ingham	..	15	35	..	..	..	..	7	1	..	..	..	..	..	..	..	..	..	..	..	..
Innisfail	..	4	12	1	..	2	..	4	..	..	..	..	..	1	..	..	..	..	..	..	..
Mareeba	30	6	2,692	180	..	962	..	312	..	..	..	..	723	..	..	..	..	..	..	..	..
Total Rockingham	886	48	4,619	461	..	1,084	1	1,501	7	..	..	..	1,115	30	..	..	10	..	..	7	..
Peninsula Division.																					
Coen	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cook	..	28	24	10	1	4	..	147	..	..	..	..	..	..	..	..	..	..	..	..	..
Somerset	..	3	120	40	..	..	..	3	..	..	..	5	..	..	..	..	..	..	..	..	..
Total Peninsula	..	31	144	50	1	4	..	150	..	..	..	5	..	..	..	..	..	..	..	..	..
North-Western Division.																					
Burke	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Camooweal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cloncurry	..	..	314	1	..	..	..	125	1	..	..	..	..	..	..	..	..	..	..	..	..
Croydon	..	..	..	12	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Etheridge	..	..	40	..	..	..	..	25	..	..	..	..	..	..	..	..	..	..	..	..	..
Hughenden	10	..	21	55	10	3	..	25	1	..	..	..	..	..	..	..	..	..	..	..	..
Julia Creek	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Norman	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Richmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total North-Western	10	..	375	68	10	3	..	175	2	..	..	..	..	..	..	..	..	..	..	..	..
Total North Queensland	*2,762*	*269*	*8,708*	*52,690*	*12*	*1,856*	*1*	*139,380*	*28*	..	..	*5*	*1,115*	*30*	..	..	*10*	*3,000*	..	*7*	..
Grand Total, State—																					
1936	167,859	27,222	320,459	183,287	35,605	47,110	5,194	476,251	683	15,891	9,230	5	10,929	12,937	..	87	5,369	280,254	1,196	21,961	383
1935	162,536	1,118	312,107	143,953	94,487	67,318	1,395	471,111	432	29,103	6,210	*a*	2,628	11,922	..	30	2,771	129,616	8,923	35,136	810
Increase, 1936	5,323	26,104	8,352	39,334	..	..	3,799	5,140	251	..	3,020	..	8,301	1,015	..	57	2,598	150,638	..	..	..
Decrease, 1936	..	..	..	..	58,882	20,208	..	..	..	13,212	..	..	..	..	..	..	..	..	7,727	13,175	427

a Not available.

Table No. 37.

LAND UNDER CULTIVATION AND THE AREA UNDER EACH CROP IN QUEENSLAND—RETURN FOR TEN YEARS.

Year.	Total Extent of Land under Cultivation.	Land in Fallow Lying Idle, &c.	Total Extent of Land under Crop.	Area Under Each Description of Crop.													
				Grain Crops.							Potatoes.		Pumpkins.	Cotton.	Sugar-Cane.		Arrow-root.
				Wheat.	Oats.	Barley.		Maize.	Rye.	Rice.	English.	Sweet.			Area Crushed.	Total Area.	
						Malting.	Other.										
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1927	1,295,992	229,380	1,066,612	215,073	2,272	2,366	854	234,013	25	..	10,035	1,615	15,760	14,950	203,748	274,838	883
1928	1,268,475	223,843	1,044,632	218,069	916	5,188	2,466	192,173	70	3	8,154	1,841	8,746	20,316	215,674	283,476	538
1929	1,269,242	223,007	1,046,235	204,116	2,003	6,318	3,436	171,614	27	1	8,116	2,066	11,014	15,003	214,880	291,660	601
1930	1,331,513	187,297	1,144,216	272,316	5,132	6,148	2,286	172,176	29	..	10,277	2,015	14,437	22,652	222,044	296,070	761
1931	1,401,932	185,530	1,216,402	248,783	1,364	1,701	522	147,069	7	..	10,374	1,874	13,143	22,452	233,304	309,818	789
1932	1,426,648	181,010	1,245,638	250,049	3,733	3,275	1,515	98,487	18	..	9,743	1,791	9,546	29,995	205,046	291,136	691
1933	1,499,996	186,558	1,313,438	232,053	5,207	5,728	3,037	166,948	47	..	11,936	1,791	13,518	68,203	228,154	311,910	797
1934	1,512,591	215,972	1,296,619	221,729	4,566	6,600	3,004	160,607	75	..	11,666	2,271	12,272	43,397	218,426	303,926	835
1935	1,574,166	239,476	1,334,690	239,631	6,823	4,285	2,095	157,370	161	..	13,620	2,503	13,368	54,947	228,515	314,700	860
1936	*a*	*a*	1,506,423	283,648	7,932	4,319	2,333	181,266	27	..	13,448	2,906	20,605	62,200	245,918	338,686	865

Year.	Area Under Each Description of Crop—*continued*.																			
	Tobacco.	Coffee.		Hay (all kinds).	Green Forage (all kinds).	Grape Vines.		Bananas.		Pineapples.		Oranges and Mandarins.		Mangoes.		Straw-berries.	Apples.		All Other Crops.
		Bear-ing.	Total Area.			Bear-ing.	Total Area.	Bearing.	Total Area.	Bear-ing.	Total Area.	Bear-ing.	Total Area.	Bear-ing.	Total Area.		Bear-ing.	Total Area.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1927	135	9	24	65,412	155,843	1,475	1,762	10,968	17,967	3,099	4,204	2,646	3,874	190	221	110	3,212	4,158	26,338
1928	138	7	11	55,498	180,524	1,627	1,787	13,185	19,750	3,259	4,734	2,752	3,734	208	249	152	3,502	4,133	26,160
1929	159	11	12	49,745	208,624	1,617	1,749	12,874	19,357	3,393	5,144	2,874	3,872	182	204	182	3,475	4,012	24,544
1930	71	12	12	52,228	217,282	1,519	1,687	12,565	18,030	3,983	5,543	2,805	3,773	155	185	173	3,427	4,039	24,019
1931	382	17	21	59,601	309,957	1,514	1,749	10,885	14,764	4,394	5,789	2,965	3,969	146	169	126	3,745	4,536	28,031
1932	3,817	7	9	64,076	392,762	1,586	1,868	7,235	10,589	4,534	5,862	2,824	3,622	132	160	114	3,527	4,741	28,504
1933	4,004	5	7	92,943	311,462	1,586	1,963	6,777	10,926	4,551	5,889	2,696	3,424	178	208	126	3,488	5,199	35,864
1934	2,081	18	23	86,477	338,312	1,517	1,926	7,027	10,323	4,603	5,584	2,836	3,421	176	211	138	3,451	5,373	37,948
1935	3,117	14	18	71,309	379,651	2,025	2,470	7,004	8,500	4,545	5,779	2,635	3,222	152	185	140	3,413	5,452	44,484
1936	3,973	20	20	62,758	429,782	1,944	2,501	4,983	7,305	4,408	6,314	2,750	3,534	273	363	169	3,211	5,358	66,111

a Not available.

Table No. 38.

GROSS PRODUCE OF PRINCIPAL CROPS GROWN IN QUEENSLAND—RETURN FOR TEN YEARS.

Quantity of Produce.

Year.	Grain Crops							Potatoes.		Pumpkins.	Cotton. Unginned.	Sugar-cane.	
	Wheat.	Oats.	Barley.		Maize.	Rye.	Rice.	English.	Sweet.			Weight of Cane.	Sugar made at 94 % Net Titre.
			Malting.	Other.									
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons	Tons.	Tons.	Lb.	Tons.	Tons.
1927	3,783,584	43,788	57,032	15,368	6,703,518	638	..	18,914	6,069	51,148	7,060,756	3,555,827	485,745
1928	2,515,561	13,737	76,392	31,201	5,135,607	1,092	121	9,687	7,572	20,922	12,290,910	3,736,311	520,620
1929	4,235,172	38,494	139,604	65,963	4,376 412	364	12	13,214	7,017	27,591	8,024,502	3,581,265	518,516
1930	5,107,561	94,452	134,226	39,337	4,565,850	330	..	18,489	7,109	38,354	17,022,897	3,528,660	516,783
1931	3,863,894	20,352	28,882	7,515	3,780,597	54	..	17,189	6,802	32,222	15,244,644	4,064,300	581,276
1932	2,493,902	58,729	67,792	33,241	1,653,853	239	..	14,017	4,106	18,153	6,270,116	3,546,370	514,027
1933	4,361,614	69,534	99,786	52,694	3,715,764	840	..	20,123	5,344	23,140	17,718,306	4,667,122	638,559
1934	4,076,181	82,198	111,588	45,616	4,142,079	1,927	..	23,627	9,577	31,632	26,921,179	4,273,380	611,161
1935	2,690,316	119,459	64,891	26,475	3,504,645	2,764	..	24,765	10,091	33,241	20,785,118	4,220,335	610,080
1936	2,016,236	22,417	27,302	10,076	3,148,814	41	..	15,826	11,959	40,058	13,198,640	5,170,571	744,676

Quantity of Produce—*continued.*

Year.	Arrowroot (Tubers).	Tobacco (Cured Leaf).	Coffee.	Hay (all Kinds).	Ensilage.	Grape Vines.		Bananas.	Pineapples.	Oranges and Mandarins.	Mangoes.	Strawberries.	Apples.
						Grapes.	Wine.						
	Tons.	Lb.	Lb.	Tons.	Tons.	Lb.	Gallons.	Bunches.	Dozens.	Bushels	Bushels.	Quarts.	Bushels.
1927	10,122	109,595	6,578	94,996	9,721	3,777,830	38,571	2,863,414	823,331	243,037	34,295	85,924	103,893
1928	5,938	111,885	2 102	85,651	4,037	3,946,788	37,210	3,265,161	938,335	377,177	78,609	161,584	183,461
1929	4 870	192,943	8,227	79,583	2,933	4,220,703	48,174	2,910,083	857,116	272,801	45,623	330,287	177,062
1930	10,098	58,594	6,458	87,146	4,880	5,366,062	48,899	3,068,143	1,000,508	308,967	31,924	209 413	217,317
1931	8,276	260,670	8,455	91,275	5,819	4,917,808	41,456	2,950,678	1,181,654	304,661	36,781	148,329	179,745
1932	6,878	2,303,861	4,200	82,104	6,305	5,296,980	35,301	1,869,883	1,175,870	321,995	23,035	111,667	233,565
1933	9,950	2,079,754	5,580	144,250	8,515	5,053,022	31,796	2,027,505	1,355,300	294,396	11,126	158,732	298,372
1934	9,712	1,025,049	13,766	154,157	7,566	4,825,223	38,051	1,905,900	1,126,831	388,207	30,133	205,005	284,893
1935	10,239	1,555,083	6,210	122,687	5,644	5,219,521	22,569	1,733,378	1,333,415	287,769	18,715	218,000	249,998
1936	10,204	2,005,031	9,230	73,787	*a*	4,997,851	29,121	1,447,244	1,227,734	307,439	51,152	246,973	215,279

a Not available.

Table No. 39.

Showing the GROSS VALUE OF PRINCIPAL CROPS Raised in Queensland—Return for Ten Years.

Year.	Wheat.	Oats.	Barley.		Maize.	Rye.	Rice.	Potatoes.		Pumpkins.	Cotton Unginned.	Sugar-cane.	Arrowroot (Tubers).
			Malting.	Other.				English.	Sweet.				
	£	£	£	£	£	£	£	£	£	£	£	£	£
1927	1,040,486	11,859	13,961	3,810	1,815,536	249	..	178,895	28,543	184,346	144,576	7,108,967	20,244
1928	639,372	3,663	18,780	7,865	802,439	428	41	80,322	26,187	125,532	213,832	7,209,778	11,876
1929	1,036,735	9,664	29,520	13,605	1,016,604	146	4	225,739	52,335	255,217	186,121	7,163,024	9,740
1930	1,030,642	22,039	24,608	6,843	965,487	132	..	165,245	25,918	138,234	354,652	7,040,415	21,206
1931	753,435 *a*	3,166	3,476	792	518,257	22	..	132,499	23,342	144,350	307,975 *k*	7,326,233	11,586
1932	447,169 *b*	10,400	10,169	4,986	389,345	74	..	108,630	21,043	89,252	125,106 *l*	6,852,717	12,037
1933	748,289 *c*	11,372	17,252	8,562	681,223	266	..	125,769	14,919	109,377	282,740 *m*	7,247,122	13,432
1934	776,689 *d*	14,214	19,501	6,253	562,095	434	..	180,225	28,730	119,224	397,263 *n*	6,934,764	10,683
1935	597,059 *e*	20,900	11,895	4,695	674,117	690	..	229,076	42,764	134,321	376,456 *o*	7,073,049	10,239
1936	580,000 *f*	3,735	6,047	2,250	714,570	12	..	170,130	59,795	143,253	330,324 *p*	8,297,838	10,500

Year.	Tobacco (Cured Leaf).	Coffee.	Hay (All Kinds).	Ensilage. *	Grapes.	Bananas.	Pineapples.	Oranges and Mandarins.	Mangoes.	Straw-berries.	Apples.	Tomatoes.	Cabbages and Cauliflowers.	All Crops.
	£	£	£	£	£	£	£	£	£	£	£	£	£	£
1927	8,895	247	603,715	9,721	62,964	1,200,810	332,757	170,126	13,432	7,697	87,119	211,460	55,945	14,503,791
1928	7,594	79	453,204	8,416	93,768	960,000	225,413	155,681	24,292	14,700	64,020	234,650	96,079	12,709,041
1929	12,670	309	447,284	6,334	81,241	927,923	212,326	175,900	18,971	33,143	95,355	272,884	127,076	13,803,792
1930	5,640	242	430,571	9,939	85,776	903,113	212,528	122,943	10,602	14,615	77,601	208,743	85,352	12,821,665
1931	27,153	318	401,133	11,238	79,889	621,983	254,382	116,787	12,945	7,880	67,195	204,396	75,017	12,190,794
1932	230,386	158	413,961	12,668	93,319	427,208	196,914	122,808	7,432	7,038	94,337	165,272	80,406	11,305,731
1933	129,985	209	608,165	12,971	68,931	470,776	203,743	119,905	3,410	9,425	96,814	192,818	76,634	12,303,271
1934	69,400	516	614,010	11,706	68,715	335,685	207,870	97,900	10,193	4,615	89,940	194,140	47,333	11,905,806
1935	140,880	232	607,570	10,545	66,047	302,560	247,085	105,623	8,185	8,175	70,987	208,531	74,136	12,380,165
1936	165,916	345	452,000	†	70,911	282,850	245,230	109,637	16,380	10,290	70,196	213,125	80,415	13,557,000

a Includes Bounty, £72,188.
b Includes Bounty, £40,744.
c Includes Bounty, £76,455.
d Includes Bounty, £100,700.
e Includes Relief and Special Assistance, £42,799.
f No Bounty, Relief, or Special Assistance was paid.

k Includes Bounty, £90,733.
l Includes Bounty, £30,833.
m Includes Bounty, £73,540.
n Includes Bounty, £84,024.
o Includes Bounty, £106,539.
p Includes Bounty, £87,778.

* Not included in Total Value all Crops.
† Not available.

Table No. 40.

AVERAGE YIELD PER ACRE OF PRINCIPAL CROPS IN QUEENSLAND—RETURN FOR TEN YEARS.

Year.	Grain Crops.							Potatoes.		Pumpkins.	Cotton Unginned.	Sugar.		Arrowroot (Tubers).	Tobacco (Cured Leaf).	Coffee.	Hay (all Kinds).	Grapes.	Bananas.	Pineapples.	Oranges and Mandarins.	Mangoes.	Strawberries.	Apples.
	Wheat	Oats.	Barley.		Maize.	Rye.	Rice.	English.	Sweet.			Cane per Acre Crushed.	Sugar per Acre Crushed.											
			Malting.	Other.																				
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.	Tons.	Tons.	Lb.	Tons.	Tons.	Tons.	Lb.	Lb.	Tons.	Lb.	Bunches.	Doz.	Bushels.	Bushels.	Quarts.	Bushels.
1927 ..	17·59	19·27	24·10	18·00	28·65	25·52	..	1·88	3·72	3·25	472	17·45	2·38	11·46	812	731	1·45	2,561	261	266	92	181	781	32
1928 ..	11·54	15·00	14·72	12·65	26·72	15·60	40·33	1·19	4·11	2·39	605	17·32	2·41	11·04	811	300	1·54	2,426	248	288	137	378	1,063	52
1929 ..	20·75	19·22	22·10	19·20	25·50	13·48	12·00	1·63	3·40	2·51	535	16·67	2·41	8·10	1,213	748	1·60	2,616	228	253	95	251	1,815	51
1930 ..	18·76	18·40	21·83	17·21	26·52	11·38	..	1·80	3·53	2·66	751	15·89	2·33	13·29	825	538	1·67	3,533	244	251	110	206	1,210	63
1931 ..	15·53	14·92	16·98	14·40	25·60	7·71	..	1·66	3·63	2·53	679	17·29	2·49	10·49	682	497	1·53	3,248	271	269	103	252	1,177	48
1932 ..	9·97	15·73	20·70	21·94	16·79	13·28	..	1·44	2·29	1·90	209	17·30	2·51	9·95	604	600	1·28	3,340	258	259	114	175	980	66
1933 ..	18·80	13·35	17·42	17·35	22·26	17·87	..	1·69	2·98	2·47	260	20·46	2·80	12·48	519	1,116	1·55	3,186	299	298	109	63	1,260	86
1934 ..	18·38	18·00	16·91	14·99	25·79	25·69	..	1·85	4·22	2·58	620	19·56	2·80	11·63	493	765	1·78	3,181	271	245	137	171	1,486	83
1935 ..	11·23	17·51	15·14	12·64	22·27	17·17	..	1·82	4·27	2·49	378	18·47	2·67	11·91	499	444	1·72	2,578	247	293	109	123	1,557	73
1936 ..	7·11	2·83	6·32	4·32	17·37	1·52	..	1·18	4·12	1·94	309	21·03	3·03	11·80	505	462	1·18	2,571	290	279	112	187	1,461	67
Average*	14·97	15·42	17·62	15·27	23·75	14·92	26·17	1·61	3·63	2·47	482	18·14	2·58	11·22	696	620	1·53	2,924	266	270	112	199	1,279	62

* Average of annual yields per acre during last ten years.

Table No. 41.

AVERAGE YIELD PER ACRE OF CROPS IN EACH DIVISION OF THE STATE FOR THE YEAR 1936.

Division.	Grain Crops.							Potatoes.		Sugar-cane (to Acres Crushed)	Cotton.	Arrow-root (Tuber).	Tobacco (Dried Leaf).	Coffee.	Pump-kins.	Hay of all Kinds.	Grapes.	Bananas.	Pine-apples.	Oranges and Man-darins.
	Wheat.	Oats.	Barley. Malting.	Barley. Other.	Maize.	Rye.	Rice.	English.	Sweet.											
	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Tons.	Tons.	Tons.	Lb.	Tons.	Lb.	Lb.	Tons.	Tons.	Lb.	Bunches.	Dozens.	Bushels.
Moreton	4·69	0·46	2·14	1·52	16·49	2·56	..	1·26	3·95	16·94	461	12·44	..	448	1·88	1·53	2,328	306	275	123
Wide Bay	4·07	2·71	0·00	7·79	18·26	..	..	0·95	4·73	17·96	273	7·85	418	473	2·27	1·52	1,291	249	322	129
Downs	7·09	3·06	6·32	4·31	11·88	0·00	..	0·69	..	..	293	..	832	..	1·46	0·60	3,097	..	..	37
Maranoa	7·39	..	..	..	5·85	..	..	1·10	..	..	192	..	..	..	1·12	0·76	1,443	..	..	74
South-Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	81
Port Curtis	10·09	2·73	0·00	..	15·12	..	..	1·29	2·47	15·62	315	..	624	..	2·02	1·61	1,658	317	241	96
Central-Western	..	..	..	..	5·75	..	..	0·91	..	..	183	..	..	..	1·36	0·60	..	..	..	151
Far-Western	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Edgecumbe	..	..	..	..	11·18	..	..	2·04	2·35	19·73	164	..	476	..	1·72	3·19	2,276	225	248	67
Rockingham	..	..	40·00	..	33·95	..	..	1·61	3·71	23·60	93	..	432	..	1·32	1·36	1,159	93	116	99
Peninsula	..	..	..	..	19·90	..	..	..	0·83	..	..	..	..	..	..	..	..	..	..	50
North-Western	..	..	..	..	11·43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Queensland—																				
1936	7·11	2·83	6·32	4·32	17·37	1·52	..	1·18	4·12	21·03	309	11·80	505	462	1·94	1·18	2,571	290	279	112
1935	11·23	17·51	15·14	12·64	22·27	17·17	..	1·82	4·27	18·47	378	11·91	499	444	2·49	1·72	2,578	247	293	109
Increase, 1936	..	..	..	..	..	..	..	..	..	2·56	..	..	..	18	..	..	..	43	..	3
Decrease, 1936	4·12	14·68	8·82	8·32	4·90	15·65	..	0·64	0·15	..	69	0·11	6	..	0·55	0·54	7	..	14	..

Table No. 42.

RETURN SHOWING THE AREA, YIELD, AND GROSS VALUE OF CROPS FOR THE YEAR 1936.

Description of Crop.		Area not Bearing.	Area Bearing.	Yield.	Value.
		Acres.	Acres.		£
Cereals	Barley, Malting	..	4,319	27,302 bushels	6,047
	Barley, Other	..	2,333	10,076 bushels	2,250
	Maize	..	181,266	3,148,814 bushels	714,570
	Oats	..	7,932	22,417 bushels	3,735
	Wheat	..	283,648	2,016,236 bushels	580,000 *a*
	Rye	..	27	41 bushels	12
Grass Seed		..	2,510	12,937 cwt.	17,667
Green Forage (All Kinds)		..	429,782	..	967,000
Hay	Lucerne	..	42,526	59,405 tons	386,000
	Oaten	..	3,218	2,266 tons	13,600
	Wheaten	..	5,259	4,190 tons	20,950
	Other	..	11,755	7,926 tons	31,450
Straw	Oaten	..	..	78 tons	390
	Wheaten	..	..	1,288 tons	6,440
	Other	..	..	130 tons	650
Pulse	Beans	..	524	27,222 bushels	13,500
	Peas	..	165	5,194 bushels	2,100
Root Crops	Arrowroot (Tubers)	..	865	10,204 tons	10,500
	Ginger	..	..	..	..
	Mangolds	..	1,310	5,369 tons	10,738
	Onions	..	1,046	35,605 cwt.	22,250
	Potatoes, English	..	13,448	15,826 tons	170,130
	Potatoes, Sweet	..	2,906	11,959 tons	59,795
	Turnips (including Swede Turnips)	..	237	683 tons	3,755
Grapes	For Table Use	557	1,944	4,609,621 lb.	68,400
	For Wine			388,230 lb.	2,511
	For Drying Purposes	..	..	..	..
Sugar-cane		92,768	245,918	5,170,571 tons	8,297,838
Tobacco		..	3,973	2,005,031 lb.	165,916
Market Gardens		..	1,105	..	55,250
Orchards and Fruit Gardens	Almonds	..	..	..	..
	Apples	2,147	3,211	215,279 bushels	70,196
	Apricots	106	198	7,343 bushels	5,085
	Bananas	2,322	4,983	1,447,244 bunches	282,850
	Cape Gooseberries	..	6	7,212 quarts	150
	Cherries	..	13	116 bushels	185
	Coconuts	..	300	5 tons (copra)	75
	Custard Apples	105	197	24,931 bushels	8,513
	Figs	..	29	5,703 bushels	2,086
	Lemons	169	215	24,151 bushels	7,416
	Mangoes	90	273	51,152 bushels	16,380
	Nectarines	7	35	2,052 bushels	1,335
	Oranges and Mandarins	784	2,750	307,439 bushels	109,637
	Passion Fruit	..	181	11,425 bushels	8,226
	Papaws	363	513	158,067 dozen	14,919
	Peaches	271	1,152	76,662 bushels	34,373
	Pears	77	311	21,491 bushels	6,180
	Persimmons	..	6	334 bushels	100
	Pineapples	1,906	4,408	1,227,734 dozen	245,230
	Plums	282	967	64,633 bushels	25,450
	Quinces	..	10	770 bushels	115
	Strawberries	..	169	246,973 quarts	10,290
	Water Melons and Rock Melons	..	606	33,122 dozen	9,415
	Other (Gardens and Orchards)	..	272	..	8,160
Other Crops	Broom Millet	..	776	280,254 lb.	6,212
	Cabbages and Cauliflowers	..	1,584	320,459 dozen	80,415
	Canary Seed	..	16,976	15,891 cwt.	28,255
	Coffee	..	20	9,230 lb.	345
	Cotton, Unginned	..	62,200	19,198,600 lb.	330,324 *b*
	Cowpeas	..	1,092	10,929 bushels	5,460
	Cucumbers	..	499	183,287 dozen	20,671
	Green Beans	..	2,668	167,859 bags	73,448
	Green Peas	..	1,022	47,110 bags	15,340
	Linseed	..	..	..	..
	Lucerne Seed	..	210	87 cwt.	610
	Millet Seed	..	148	1,196 cwt.	467
	Panicum Seed	..	5,221	21,961 cwt.	8,785
	Peanuts	..	17,311	17,023,099 lb.	130,000
	Pumpkins	..	20,605	40,038 tons	143,253
	Sunflower Seed	..	185	383 cwt.	480
	Tomatoes	..	5,131	476,251 bushels	213,125
		101,954	1,404,469	..	13,557,000
Total under Crop		1,506,423			

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a No Bounty, Relief, or Special Assistance in 1936.

b Includes Bounty, £87,778.

		Acres.	Cwt.	£
c Grass Seed includes :—	Sudan Grass	2,238	11,197	15,675
	Sorghum	114	857	857
	Rhodes	115	629	881
d Millet Seed includes :—	French	70	495	222
	Jap.	78	701	245

Table No. 43.

DATES OF PLANTING AND HARVESTING.

PRINCIPAL CROPS IN QUEENSLAND.

Owing to the great size of Queensland, with its irregular rainfall and great climate differences, this information is of necessity rather indefinite. Times of planting and consequently times of harvesting vary according to the local conditions.

The following are the dates of planting and harvesting as nearly as can be obtained :—

Crop.	Time of Planting.	Time of Harvesting.
Arrowroot	August to October	June, July, August
Barley { (1) Skinless (2) Cape (3) Malting } ..	For green fodder ; from third week in February at intervals until about second week in July. For grain ; usually sown in May	From mid October until end of November
NOTE.—Skinless and Cape Barley are mostly for feeding off, and malting barley for grain, although of course Skinless and Cape are also grown for grain.		
Canary Seed	Early planting for dual purposes, both fodder and seed made about the second to third week in April. Main planting in May, but may extend under favourable conditions till August	From mid October to end of November
Cotton	From first September to mid December, Central and South ; and till end of February, North	Beginning of March to end of October
Hay (1) Wheaten	From beginning of April to about middle of June, according to district	October and early November
NOTE.—A fair amount of hay is grown below the range between Toowoomba and Brisbane and harvested usually in October, as early maturing varieties are used.		
Hay (2) Oaten	March to end of May	Mid October to November
Maize	August to second week in January, according to district. Earlier districts, August, are usually fairly free from frost and "catch" crops are commonly planted. Main planting season in November in Southern and Central Queensland. In North Queensland (mainly Atherton Tableland) the season synchronises with the commencement of the wet season, usually starting about 1st January	May extend from latter end of December until latter end of August. Main harvest May, June, July
Potatoes	February and August	Three to four months after planting
Sorghum, Millet, &c., (including Broom Millet and Millet grown for Fodder)	August to end of January, according to district	Sorghums about five months from planting. Millets earlier—ten weeks
NOTE.—The practice of late sowing is followed in some districts to synchronise with the wet season. Broom Millet commonly planted from September to November (inclusive), is harvested within five months of time of planting Seed.		
Sugar	April to October	Crushing from June to December. Cane-cutters start a day or two ahead of the crushers and thus keep them supplied
Tobacco	Mid October to early December, but late planting not advocated	April
Wheat	Main season May and June. Range of planting April to first week in August. Customary in some districts to plant slow-maturing varieties in April, either feeding it off to dairy cattle and sheep or ultimately allowing it to mature into grain. In some districts on the Downs, slow-maturing varieties for feeding off are sown in March.	Maranoa is earliest district. Harvesting in this district starts in some seasons in second week of October and continues to first week of November. In Darling Downs and other districts harvesting usually starts about the first week of November and is carried on until the end of that month.
	FRUIT.	
Bananas	October, November, December, January, and February	All year
Citrus Fruits	May to August, February	April to October
Custard Apples	June to August	May to August
Deciduous Fruits	May to August	End of November to end of March
Grapes	August and September	December to end of April
Mangoes	February, June, and July	September to March
Papaws	September and October, February and March	Autumn and Winter
Passion Fruit	September and October, February and March	All year. Main crops Summer and Autumn. Light Spring crop.
Pineapples	September to February	Christmas to end of March and July and August are two main crops. Off crops any time of year
Strawberries	March and April	May and October

Brisbane, 1st December, 1937.

J. B. BRIGDEN,
Government Statistician.

Annual Report of the Government Statistician on Livestock and Pastoral Production for the Year 1936.

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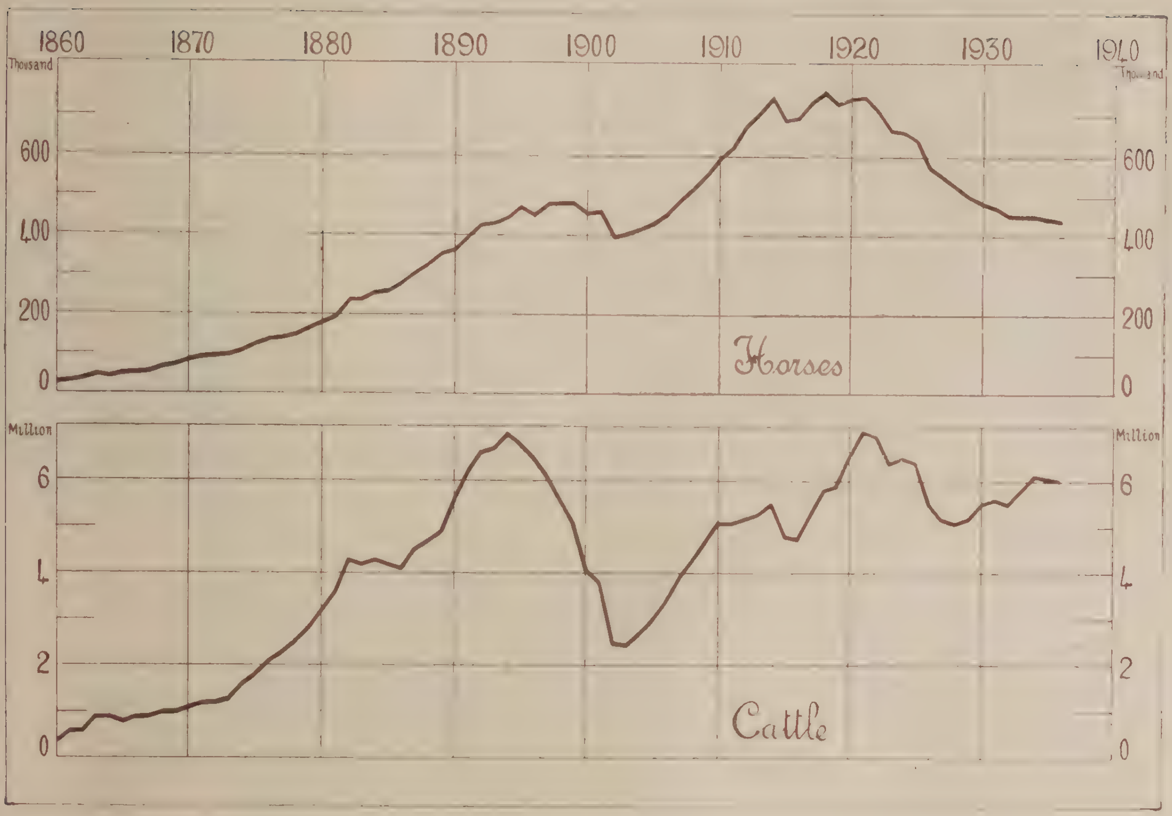
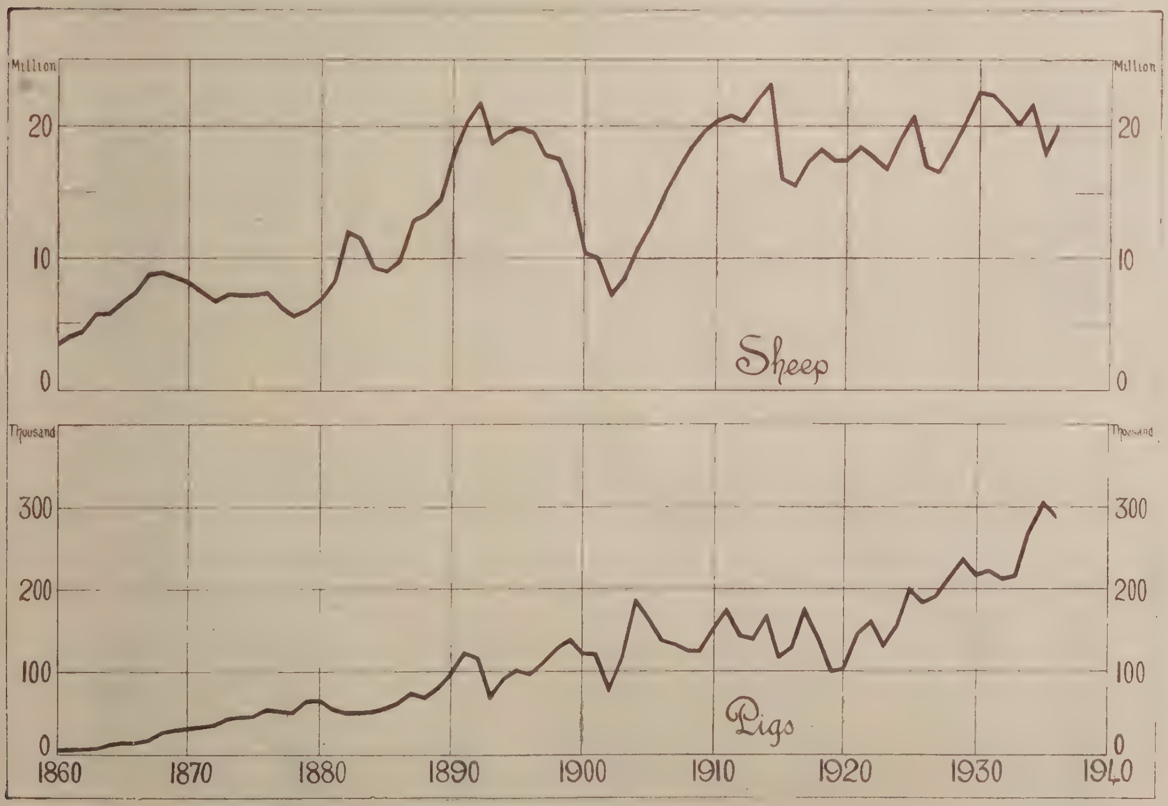
Value of Production, Estimated	20 46	224 241

LIVESTOCK IN QUEENSLAND, SINCE 1860.





LIVE STOCK AND PASTORAL PRODUCTION.

Table No. 1.

RETURN SHOWING THE NUMBER OF LIVE STOCK IN THE STATE FOR TWO YEARS, AND THE INCREASE OR DECREASE FOR THE YEAR 1936.

At 31st December.	Horses.	Cattle.	Sheep.	Pigs.
1935	441,913	6,033,004	18,060,093	304,888
1936	441,536	5,950,572	20,011,749	290,855
Numerical Increase in 1936	..	..	1,951,656	..
Numerical Decrease in 1936	377	82,432	..	14,033
Centesimal Increase in 1936	..	..	10·81	..
Centesimal Decrease in 1936	0·09	1·37	..	4·60

Table No. 2.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS IN THE STATE.

At 31st December.	Horses.	Cattle.	Sheep.	Pigs.
1927	548,333	5,225,804	16,642,385	191,947
1928	522,490	5,128,341	18,509,201	215,764
1929	500,104	5,208,588	20,324,303	236,037
1930	481,615	5,463,724	22,542,043	217,528
1931	469,474	5,550,399	22,324,278	222,686
1932	452,486	5,535,065	21,312,865	213,249
1933	450,024	5,781,170	20,072,804	217,448
1934	448,604	6,052,641	21,574,182	269,873
1935	441,913	6,033,004	18,060,093	304,888
1936	441,536†	5,950,572	20,011,749	290,855

† Including 938 Mules and 30 Donkeys.

Table No. 3.

RETURN FOR TEN YEARS SHOWING THE CENTESIMAL INCREASE OR DECREASE IN LIVE STOCK.

Year ended 31st December.	Horses.	Cattle.	Sheep.	Pigs.
1927	−4·07	−4·37	−1·30	4·51
1928	−4·71	−1·87	11·22	12·41
1929	−4·28	1·56	9·81	9·40
1930	−3·70	4·90	10·91	−7·84
1931	−2·52	1·59	−0·97	2·37
1932	−3·62	−0·28	−4·53	−4·24
1933	−0·54	4·45	−5·82	0·20
1934	−0·32	4·70	7·48	24·11
1935	−1·49	−0·32	−16·29	12·97
1936	−0·09	−1·37	10·81	−4·60

— Decrease.

Table No. 4.

RETURN SHOWING THE DENSITY AND THE PROPORTION OF THE VARIOUS KINDS OF LIVE STOCK IN THE SEVERAL PASTORAL DISTRICTS AND THE NUMBER PER CAPITA IN THE STATE AS AT 31ST DECEMBER, 1936.

In Converting Horses and Cattle to Terms of Sheep, Ten Head of Sheep are Taken as Equal to One Horse or Head of Cattle.

Pastoral District.	Area in Acres.	Centesimal Ratio of Area of District to Area of State.	Horses.			Cattle.			Sheep.			All Kinds in Terms of Sheep.		
			Acres per Head.	Number per Square Mile.	Percentage to Total in State.	Acres per Head.	Number per Square Mile.	Percentage to Total in State.	Acres per Head.	Number per Square Mile.	Percentage to Total in State.	Acres per Head.	Number per Square Mile.	Percentage to Total in State
Burke	65,383,040	15·24	2,197	0·29	6·74	117	5·49	9·42	31	20·41	10·42	8·19	78·18	9·52
Burnett	7,972,480	1·86	226	2·84	8·00	15	44·02	9·21	1,450	0·44	0·03	1·36	468·97	6·96
Cook	63,601,920	14·82	1,870	0·34	7·70	118	5·43	9·06	135,902	0·01	0·01	11·09	57·69	6·83
Darling Downs ..	16,249,600	3·79	266	2·41	13·85	29	21·75	9·28	6	99·23	12·59	1·88	340·77	10·31
Gregory North ..	54,266,240	12·64	5,319	0·12	2·31	304	2·11	3·00	41	15·64	6·62	16·88	37·91	3·83
Gregory South ..	31,617,920	7·37	5,252	0·12	1·36	293	2·19	1·82	70	9·21	2·27	19·82	32·28	1·90
Leichhardt	30,946,560	7·21	803	0·80	8·72	41	15·55	12·64	27	24·01	5·80	3·41	187·50	10·80
Maranoa	25,110,400	5·85	1,187	0·54	4·79	140	4·57	3·02	7	92·94	18·22	4·44	144·07	6·74
Mitchell	35,431,680	8·26	1,802	0·36	4·45	544	1·18	1·09	7	92·85	25·69	5·92	108·16	7·13
Moreton	5,649,920	1·32	107	6·00	12·00	11	60·47	8·97	574	1·12	0·05	0·96	665·86	7·00
North Kennedy ..	21,832,960	5·09	485	1·32	10·20	41	15·72	9·01	5,787	0·11	0·02	3·75	170·49	6·93
Port Curtis	8,994,560	2·09	341	1·88	5·98	16	39·46	9·32	323	1·98	0·14	1·54	415·31	6·95
South Kennedy ..	19,528,960	4·55	894	0·72	4·95	54	11·95	6·13	82	7·82	1·19	4·76	134·50	4·89
Warrego	37,333,760	8·70	2,666	0·21	3·17	290	2·21	2·16	11	58·10	16·93	7·75	82·56	5·74
Wide Bay	5,200,000	1·21	204	3·14	5·78	15	42·99	5·87	1,390	0·46	0·02	1·39	461·75	4·47
STATE	429,120,000	100·00	972	0·66	100·00	72	8·87	100·00	21	29·85	100·00	5·11	125·18	100·00
Number per Capita Population ..	..			0·45			6·06			20·38			85·46	

Table No. 5.

The following table shows, from the latest information available, the live stock density in various countries

	Live Stock in Terms of Sheep per Square Mile.
Queensland	125
New South Wales	306
Victoria	470
Argentina	414
Australia	90
Germany	1,316
Great Britain and North Ireland	1,292
Irish Free State	1,757
U.S.S.R. (Russia)	99
Union of South Africa	331
United States of America	291

Table No. 6.

RETURN SHOWING NUMBER AND PROPORTION OF HORSES, CATTLE, SHEEP, AND PIGS IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1936.

Division.	Horses.		Cattle		Sheep.		Pigs.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
Southern	222,077	50·30	2,542,660	42·73	10,130,985	50·63	261,469	89·90
Central	95,186	21·56	1,554,195	26·12	7,700,652	38·48	12,009	4·13
Northern	124,273	28·14	1,853,717	31·15	2,180,112	10·89	17,377	5·97
Totals, State ..	441,536	100·00	5,950,572	100·00	20,011,749	100·00	290,855	100·00

Table No. 7.

RETURN SHOWING NUMBER OF HORSES, CATTLE, AND SHEEP PER SQUARE MILE AND PER CAPITA OF POPULATION IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1936.

Division.	Area in Square Miles.	Population. *	Horses.		Cattle.		Sheep.		All Kinds in Terms of Sheep.	
			Per Square Mile.	Per Capita of Population.	Per Square Mile.	Per Capita of Population.	Per Square Mile.	Per Capita of Population.	Per Square Mile.	Per Capita of Population.
Southern ..	209,980	691,432	1·06	0·32	12·11	3·68	48·25	14·65	179·91	54·64
Central ..	209,340	99,373	0·45	0·96	7·42	15·64	36·79	77·49	115·57	243·47
Northern ..	251,180	191,329	0·49	0·65	7·38	9·69	8·68	11·39	87·43	114·78
Totals ..	670,500	982,134	0·66	0·45	8·87	6·06	29·85	20·38	125·18	85·46

* Estimated as at 31st December, 1936.

Table No. 8.

RETURN SHOWING THE NUMBER OF HORSES IMPORTED AND EXPORTED INTO AND FROM THE STATE FOR THE YEAR 1936.

Horses Imported during 1936.					Horses Exported during 1936.				
Country.	Number.		Value.		Country.	Number.		Value.	
Oversea—			£	£	*Oversea—*			£	£
United Kingdom ..	2		715		Hong Kong ..	3		60	
					India	1,655		26,505	
					Netherlands (East Indies)	153		3,035	
					Siam	41		820	
					United Kingdom ..	504		7,560	
		2		715			2,356		37,980
Interstate (by land)—					*Interstate (by land)—*				
New South Wales	5,234		49,382		New South Wales ..	16,418		93,661	
Northern Territory	1,004		4,101		Northern Territory	1,069		4,269	
South Australia ..	..		..		South Australia ..	31		155	
		6,238		53,483			17,518		98,085
		6,240		54,198			19,874		136,065

Table No. 9.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF ENTIRE AND OTHER HORSES.

At 31st December.	Entire Horses.	Other Horses.	Total.
1927	1,951	546,382	548,333
1928	1,750	520,740	522,490
1929	1,700	498,404	500,104
1930	1,805	479,810	481,615
1931	2,221	467,253	469,474
1932	2,147	450,339	452,486
1933	2,389	447,635	450,024
1934	2,358	446,246	448,604
1935	2,534	439,379	441,913
1936	2,741	438,795	441,536

Table No. 10.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS UNDER VARIOUS GROUPINGS, ALSO THE CENTESIMAL INCREASE OR DECREASE FOR THE YEAR 1936.

For Details of Sizes of Herds of Cattle in Pastoral Districts, for the Year 1936, *see Table No.* 37.

At 31st December.	1 to 99.		100 to 199.		200 to 299.		300 to 499.		500 to 999.	
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.
1927 ..	38,234	1,058,777	3,841	640,761	*	*	791	307,384	639	460,477
1928 ..	37,501	1,086,823	4,017	662,848	*	*	787	309,195	637	451,767
1929 ..	37,376	1,113,944	4,359	713,674	*	*	841	326,676	633	447,727
1930 ..	37,590	1,153,767	4,709	768,192	*	*	867	338,439	652	458,244
1931 ..	38,715	1,219,244	5,006	822,241	*	*	889	346,963	679	477,297
1932 ..	39,805	1,254,112	4,978	812,966	*	*	856	330,355	708	495,940
1933 ..	40,064	1,297,024	3,969	554,522	1,126	280,329	878	343,673	718	510,694
1934 ..	40,204	1,332,945	4,195	587,156	1,195	296,263	921	358,358	771	544,854
1935 ..	40,138	1,323,624	4,216	590,976	1,229	304,823	921	358,926	800	563,413
1936 ..	40,637	1,263,110	3,998	541,017	1,152	276,873	909	344,940	826	567,691

At 31st December.	1,000 to 4,999.		5,000 to 9,999.		10,000 and Upwards.		Totals.		Average Size of Herds.
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	
1927	609	1,278,875	106	731,917	40	747,613	44,260	5,225,804	118
1928	589	1,238,377	93	643,522	43	735,809	43,667	5,128,341	117
1929	601	1,256,436	106	729,907	37	620,224	43,953	5,208,588	119
1930	640	1,330,754	98	658,532	46	755,796	44,602	5,463,724	122
1931	617	1,286,905	105	704,694	40	693,055	46,051	5,550,399	121
1932	611	1,286,119	101	708,518	37	647,055	47,096	5,535,065	118
1933	645	1,321,670	108	766,659	41	706,599	47,549	5,781,170	122
1934	666	1,375,325	111	795,913	47	761,827	48,110	6,052,641	126
1935	682	1,379,209	113	795,503	43	716,530	48,142	6,033,004	125
1936	658	1,340,831	113	799,493	48	816,617	48,341	5,950,572	123
Increase per cent., 1936 on 1935							0.41	— 1·37	..

* Included in Group 100 to 199.

Table No. 11.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS UNDER VARIOUS GROUPINGS, ALSO THE CENTESIMAL INCREASE OR DECREASE FOR THE YEAR 1936.

For Details of Sizes of Flocks of Sheep in Pastoral Districts, for the Year 1936, see Table No. 39.

At 31st December.	1 to 499.		500 to 999.		1,000 to 1,999.		2,000 to 4,999.		5,000 to 9,999.	
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.
1927 ..	2,024	273,668	554	410,614	709	1,071,703	1,020	3,371,043	471	3,220,135
1928 ..	1,948	270,670	548	411,937	758	1,129,591	1,095	3,637,181	553	3,830,572
1929 ..	1,913	252,107	548	415,464	766	1,148,611	1,234	4,088,974	662	4,560,694
1930 ..	1,944	245,755	520	398,080	673	1,006,284	1,214	4,078,142	734	5,053,772
1931 ..	1,911	227,967	526	401,406	677	1,002,776	1,231	4,179,403	772	5,348,174
1932 ..	1,788	214,150	551	415,076	679	1,026,160	1,250	4,262,626	767	5,341,045
1933 ..	1,705	212,286	527	392,199	710	1,087,876	1,243	4,217,809	787	5,442,649
1934 ..	1,587	195,446	518	391,620	698	1,055,507	1,371	4,714,367	770	5,343,165
1935 ..	1,730	224,230	635	487,052	750	1,130,779	1,446	4,839,661	613	4,225,195
1936 ..	1,581	191,727	493	361,321	712	1,022,427	1,385	4,570,327	741	5,013,343

At 31st December.	10,000 to 19,999.		20,000 to 49,999.		50,000 to 99,999.		100,000 and Upwards.		Totals.		Average Size of Flocks.
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	
1927 ..	234	3,280,459	109	3,364,725	22	1,362,817	2	287,221	5,145	16,642,385	3,235
1928 ..	279	3,899,803	113	3,399,575	24	1,570,488	3	359,384	5,321	18,509,201	3,479
1929 ..	286	4,021,226	127	3,791,241	25	1,570,079	4	475,907	5,565	20,324,303	3,652
1930 ..	313	4,356,680	158	4,635,047	33	2,261,447	4	506,836	5,593	22,542,043	4,030
1931 ..	303	4,144,829	153	4,445,418	35	2,302,423	2	271,882	5,610	22,324,278	3,979
1932 ..	302	4,132,447	109	3,329,982	35	2,323,938	2	266,541	5,483	21,312,865	3,887
1933 ..	273	3,766,895	113	3,338,748	23	1,490,490	1	123,852	5,382	20,072,804	3,730
1934 ..	302	4,128,259	126	3,742,267	29	1,882,996	1	120,555	5,402	21,574,182	3,994
1935 ..	246	3,378,764	101	2,926,491	11	710,121	1	137,800	5,533	18,060,093	3,264
1936 ..	297	3,994,514	124	3,710,511	15	1,004,952	1	142,627	5,349	20,011,749	3,741
Increase per cent., 1936 on 1935 ..	..	..	..	..	..	..	..	..	−3·33	10·81	..

Table No. 12.

RETURN FOR TEN YEARS SHOWING THE RESULTS OF LAMBING, LOSSES, ETC., IN THE STATE.

For Details for the Year 1936, see Tables No. 52 and 53.

—	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.
Total Sheep on 1st January	16,860,772	16,642,385	18,509,201	20,324,303	22,542,043	22,324,278	21,312,865	20,072,804	21,574,182	18,060,093
Ewes mated with Rams ..	6,980,529	7,820,137	8,114,502	9,158,966	9,107,493	8,877,345	7,526,979	9,454,686	6,843,471	*
Lambs Marked	2,481,955	3,995,065	4,257,250	5,625,924	5,013,286	4,243,356	3,336,321	4,979,373	2,115,883	*
Percentage of Lambing ..	35·56	51·09	52·46	61·43	55·05	47·80	44·32	52·67	30·92	*
Purchases and Transfers ..	4,371,786	5,095,420	4,332,101	3,834,721	3,109,122	3,076,159	4,447,856	3,602,919	4,239,105	*
Sales and Transfers ..	4,429,268	5,331,870	4,693,815	4,642,376	5,621,848	5,141,507	5,821,505	4,777,149	5,126,264	*
Losses	2,449,231	1,693,954	1,851,105	1,840,943	2,449,784	2,920,545	2,935,089	2,042,567	4,488,006	*
Killed for Food on Holding	193,629	197,845	229,329	259,586	268,541	268,876	267,644	261,198	254,807	236,897
Total Sheep on 31st December	16,642,385	18,509,201	20,324,303	22,542,043	22,324,278	21,312,865	20,072,804	21,574,182	18,060,093	20,011,749
Skins obtained†	282,920	205,797	208,162	219,347	206,204	139,674	159,351	182,856	172,583	*

* Not yet available. † Year ended 30th June.

Table No. 13.

RETURN FOR TWO YEARS SHOWING THE NUMBER OF CATTLE, ETC., EXPORTED AND NUMBER KILLED FOR EXPORT OR FOR HOME CONSUMPTION.

YEAR ENDED 31ST DECEMBER.	Cattle and Calves.		Sheep and Lambs.		Pigs.	
	1935.	1936.	1935.	1936.	1935.	1936.
Exported, less number imported alive oversea	53	74	45	78	− 5	5
Exported, less number imported alive overland	47,738	144,797	135,854	394,542	− 553	− 3,905
Number killed for export (meatworks, bacon factories, and abattoir)	420,966	538,560	130,034	166,571	113,479	143,456
Number killed for home consumption (meatworks, bacon factories, abattoir, slaughter-houses, stations, and farms)	*438,618	*472,559	*889,694	*877,173	*408,185	*430,525
Total	907,375	1,155,990	1,155,627	1,438,364	521,106	570,081

* Includes condemned :—

	1935.	1936.
Cattle	10,167	15,103
Sheep	2,018	1,468
Pigs	5,485	5,953

Table No. 14.

Return for Ten Years showing the Number of Horses, Cattle, Sheep, and Pigs Imported into and Exported from the State Overland and Oversea.

Year.		Horses.		Cattle.		Sheep.		Pigs.	
		Inward.	Outward.	Inward.	Outward.	Inward.	Outward.	Inward.	Outward.
		Number.	Number.	Number.	Number.	Number.	Number.	Number.	Number
1927	Overland, Calendar year ..	11,461	9,935	108,192	168,730	1,150,437	457,897	†	†
	Overland, Financial year ..	14,696	20,876	71,722	265,384	937,030	630,207	†	†
	Oversea, Calendar year ..	..	634	..	54	..	22	..	5
	Oversea, Financial year ..	..	2,839	..	80	..	17	..	1
1928	Overland, Jan. to June ..	3,804	6,364	4,129	264,225	422,589	351,990	†	†
	Overland, July to Dec. ..	3,277	5,203	5,145	101,877	328,665	317,304	126	3,17
	Oversea, Jan. to June ..	5	2,137	..	18	..	54	..	2
	Oversea, July to Dec. ..								4
1929	Overland, Jan. to June ..	23,561	6,232	51,614	85,028	394,970	220,978	143	4,28
	Overland, July to Dec. ..	4,904	7,682	34,049	95,550	233,915	314,820	134	12,24
	Oversea, Jan. to June ..	..	2,906	..	21	..	316	..	
	Oversea, July to Dec. ..								2
1930	Overland, Jan. to June ..	5,271	8,579	66,092	84,111	397,616	346,064	201	7,37
	Overland, July to Dec. ..	9,470	10,460	34,709	142,702	215,204	543,794	595	3,75
	Oversea, Jan. to June ..	..	2,492	13	25	..	344	..	
	Oversea, July to Dec. ..								
1931	Overland, Jan. to June ..	4,974	8,212	28,147	122,681	156,266	382,188	627	3,49
	Overland, July to Dec. ..	6,783	11,819	24,226	134,406	121,501	812,607	694	1,48
	Oversea, Jan. to June ..	1	147	10	..	..	170	..	..
	Oversea, July to Dec. ..	..	1,822	..	13	..	310	..	
1932 *	Overland, Jan. to June ..	5,368	11,017	13,595	128,879	118,561	537,096	779	2,79
	Overland, July to Dec. ..	5,925	11,666	17,430	111,451	171,706	566,031	903	59
	Oversea, Jan. to June ..	..	2	..	4	..	260	..	..
	Oversea, July to Dec. ..	1	942	..	13	..	..	..	..
1933	Overland, Jan. to June ..	6,160	7,828	21,442	61,104	264,519	172,063	792	1,43
	Overland, July to Dec. ..	5,789	8,925	24,700	127,664	209,042	318,852	476	39
	Oversea, Jan. to June ..	1	8	2	1	..	41	1	
	Oversea, July to Dec. ..	..	1,820	..	29	..	106	2	
1934	Overland, Jan. to June ..	5,024	10,237	48,082	160,492	177,227	273,279	1,314	79
	Overland, July to Dec. ..	4,108	9,915	17,465	118,526	165,664	312,246	1,135	38
	Oversea, Jan. to June ..	..	6	2	13	..	98	..	
	Oversea, July to Dec. ..	..	2,323	..	37	..	44	..	..
1935	Overland, Jan. to June ..	3,289	8,399	22,101	56,259	161,757	350,842	803	48
	Overland, July to Dec. ..	3,152	6,952	27,883	41,463	284,626	231,395	1,006	77
	Oversea, Jan. to June ..	..	110	12	18	..	24	3	
	Oversea, July to Dec. ..	3	2,371	..	47	..	21	6	
1936	Overland, Jan. to June ..	3,609	8,851	51,649	107,482	201,611	397,332	2,493	91
	Overland, July to Dec. ..	2,629	8,667	41,785	130,749	217,171	415,992	3,678	1,35
	Oversea, Jan. to June ..	..	3	3	21	..	10	..	..
	Oversea, July to Dec. ..	2	2,353	..	56	..	68	..	
1937	Overland, Jan. to June ..	2,185	8,459	39,849	64,094	448,144	296,212	3,782	89
	Oversea, Jan. to June ..	..	243	5	41	..	104	..	..

† Not available.

* Interstate coastwise traffic for the six months ended 30th June, 1932, was as follows:—Inward—Horses 47, Value £3,913; Cattle 17, Value £827; Sheep 6, Value £240; Pigs 2, Value £50. Outward—Nil.

Table No. 15.

Return of Live Stock and Wool crossing the Queensland Borders during the Year ended 31st December, 1936.

—	Horses.		Cattle.		Sheep.		Pigs.		Wool.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Bales.	*Value.
		£		£		£		£	No.	£
INWARD.										
From—										
New South Wales ..	5,234	49,382	29,265	74,082	418,782	507,646	6,171	11,213	4,151	81,203
Northern Territory ..	1,004	4,101	63,769	243,573	..	..	..	..	..	..
South Australia ..	..	..	400	2,800	..	..	..	..	..	..
Total	6,238	53,483	93,434	320,455	418,782	507,646	6,171	11,213	4,151	81,203
OUTWARD.										
To—										
New South Wales ..	16,418	93,661	214,667	788,851	813,324	622,286	2,266	3,655	9,010	174,575
Northern Territory ..	1,069	4,269	359	3,590	..	..	..	..	..	..
South Australia ..	31	155	23,205	142,074	..	..	..	..	(a) 380	7,480
Total	17,518	98,085	238,231	934,515	813,324	622,286	2,266	3,655	(a)9,390	182,055

* Based on Brisbane Market Value.

(a) Including 195 bales of scoured wool.

Table No. 16.

RETURN SHOWING THE NUMBER, &c., OF BACON-CURING AND MEAT PRESERVING WORKS FOR THE YEAR ENDED 30TH JUNE, 1936, AND INCREASE OR DECREASE ON PREVIOUS YEAR.

Kind of Establishment.	Number.	Number of Workers Employed. (a)	Value of Machinery and Plant.	Value of Land and Buildings.	Value of Output.
			£	£	£
Bacon Curing	9	705	117,927	221,599	1,446,004
Meat Preserving (b)	9	2,033	651,496	1,209,616	4,086,745
Total, 1935–36	18	2,738	769,423	1,431,215	5,532,749
Total, 1934–35	18	2,349	771,727	1,379,056	5,434,523
Increase, 1935–36	..	389	..	52,159	98,226
Decrease, 1935–36	..	..	2,304	..	..

(a) Average over whole year.

(b) Not including 2 Rabbit Freezing works.

Table No. 17.

RETURN SHOWING NUMBER OF PIGS SLAUGHTERED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE, TOGETHER WITH THE PRODUCTION OF PORK, BACON, AND HAM, FOR THE YEAR 1935–36.

Petty Sessions District.	Pigs Slaughtered.	Fresh and Salt Pork.	Bacon and Ham.
	Number.	Lb.	Lb.
Beaudesert	816	67,822	778
Bowen	425	32,391	.160
Brisbane	388,776	13,099,442	15,986,367
Bundaberg	2,898	241,975	7,429
Cleveland	91	13,187	200
Clifton	360	25,334	8,889
Crow's Nest	308	27,573	3,830
Dalby	764	53,226	9,468
Dugandan	774	59,544	3,565
Eidsvold	217	17,677	3,770
Gatton	307	25,101	7,271
Gayndah	439	40,808	480
Gin Gin	203	4,807	19,413
Gladstone	793	61,800	5,456
Harrisville	242	14,520	11,213
Laidley	606	52,823	5,770
Logan	719	60,295	10,554
Lowood	271	31,091	3,200
Mackay	3,632	276,251	363
Marburg	187	22,580	210
Mareeba	9,493	44,430	650,061
Maryborough	10,610	180,526	671,119
Mount Isa	641	30,721	..
Nanango	1,262	87,737	18,680
Oakey	668	60,656	10,127
Rockhampton	19,769	1,280,784	406,372
Roma	728	58,060	2,450
Toogoolawah	309	27,825	252
Toowoomba	75,350	515,378	5,008,931
Warwick	4,848	71,874	314,962
Wienholt	1,048	90,210	3,972
All Other Districts	30,541	2,323,247	23,034
Total, State	558,095	18,999,695	23,198,346
Total on Farms	5,606	420,859	181,272
Total in Factories	492,416	13,601,567	23,017,074
Total in Slaughter-houses	60,073	4,977,269	..
Total, State	* 558,095	18,999,695	23,198,346

* Including 5,899 Pigs slaughtered but subsequently condemned.

Figures in this table are for Financial year, therefore do not agree with those in Tables No. 13 and No. 42 which refer to calendar year.

Table No. 18.

RETURN FOR TEN YEARS SHOWING THE QUANTITY AND CONDITION OF WOOL SOLD IN THE BRISBANE MARKET AND THE AMOUNT REALISED.

Year ended 30th June.	No. of sales.	Greasy Wool.			Scoured Wool.			Total Greasy and Scoured Wool.		
		No. of bales.	Weight in lb.	Amount Realised.	No. of bales.	Weight in lb.	Amount Realised.	No. of bales.	Weight in lb.	Amount Realised.
				£			£			£
1928	7	313,793	103,338,556	8,238,293	27,986	5,961,162	909,878	341,779	109,299,718	9,148,171
1929	8	346,259	113,454,571	7,410,209	30,002	6,201,171	770,577	376,261	119,655,742	8,180,786
1930	10	377,730	122,773,424	5,247,977	33,103	6,744,969	517,696	410,833	129,518,393	5,765,673
1931	10	427,167	139,749,813	5,403,678	29,872	6,171,041	354,427	457,039	145,920,854	5,758,105
1932	11	408,417	131,610,148	4,242,897	37,660	7,691,122	407,395	446,077	139,301,270	4,650,292
1933	10	436,385	141,636,469	5,596,119	64,137	13,387,762	907,239	500,522	155,024,231	6,503,358
1934	7	302,938	97,302,028	6,289,245	50,098	10,469.300	1,164,405	353,036	107,771,328	7,453,650
1935	13	490,804	156,152,802	6,755,127	60,135	12,149,794	941,127	550,939	168,302,596	7,696,254
1936	8	347,486	108,530,704	6,301,535	39,084	8,014,633	758,994	386,570	116,545,337	7,060,529
1937	10	456,324	143,867,941	9,895,743	35,942	7,227,028	795,135	492,266	151,094,969	10,690,878

Table No. 19.

RETURN FOR TEN YEARS SHOWING THE AVERAGE PRICE PER LB. REALISED AT THE BRISBANE WOOL SALES.

Year ended 30th June.	1928.	1929.	1930.	1931.	1932	1933.	1934.	1935.	1936.	1937.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Greasy wool ..	19·13	15·68	10·26	9·28	7·74	9·48	15·51	10·38	13·93	16·51
Scoured wool ..	36·63	29·82	18·42	13·78	12·71	16·26	26·69	18·59	22·73	26·41

Table No. 20.

WOOL.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF SHEEP SHORN AND THE WOOL PRODUCED IN QUEENSLAND

For details for the year ended 30th June, 1936, see Tables No. 46, 47, and 48.

Production of Wool.	1926-27.	1927-28.	1928-29.	1929-30.	1930-.31.
Number of sheep shorn	17,600,510	16,961,698	18,438,630	20,733,054	22,778,181
Result off shears only, lb. net—					
Greasy wool	104,308,040	110,611,493	121,219,173	138,030,120	158,468,047
Scoured wool	5,964,445	6,085,234	6,234,550	8,278,574	7,445,725
*Above expressed as Greasy	116,236,930	122,781,961	134,727,365	155,967,030	174,600,451
Average weight, lb.—					
Per Greasy bale	335	335	333	333	333
Per Scoured bale	221	217	217	222	215
Per Fleece in the Grease	6·60	7·24	7·31	7·52	7·67
Total wool production (Greasy), including quantity fellmongered, exported on skins, and utilised, lb.	119,847,967	126,429,938	138,988,930	‡161,087,873	‡182,061,407
† Estimated value of production	£8,938,660	£10,077,519	£9,080,611	£6,886,506	£7,039,708

Production of Wool.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.
Number of sheep shorn	23,183,705	22,407,859	20,776,320	22,609,717	18,764,417
Result off Shears only, lb. net—					
Greasy wool	156,199,991	146,708,631	137,326,080	142,036,522	122,776,544
Scoured wool	9,204,320	12,449,333	10,868,347	11,269,052	6,515,581
*Above expressed as Greasy	176,142,684	173,682,186	160,874,165	166,452,800	136,893,636
Average weight, lb.—					
Per Greasy bale	327	329	328	321	320
Per Scoured bale	207	207	211	208	211
Per Fleece in the Grease	7·60	7·75	7·74	7·36	7·30
Total wool production (Greasy), including quantity fellmongered, exported on skins, and utilised, lb.	‡184,716,462	‡185,833,546	‡169,989,516	‡174,088,413	‡142,793,328
† Estimated value of production	£5,957,105	£7,340,425	£10,227,703	£7,587,353	£8,287,963

* From 1st July, 1928, scoured wool has been converted into the estimated greasy equivalent on the assumption that 1 lb. scoured wool is produced from 2⅙ lb. greasy. In previous years a ratio of 1 to 2 was used.

† Based on average prices realised at Brisbane Wool Sales.

‡ Including dead wool (not previously collected).

Table No. 21.

RETURN FOR TEN YEARS SHOWING THE AVERAGE OVERSEA EXPORT VALUE PER LB. OF WOOL FROM QUEENSLAND.

Year ended 30th June.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.
Greasy wool	20·19	17·17	11·60	9·86	8·61	9·01	15·11	10·53	14·44	16·81
Scoured wool .	34·48	31·44	22·34	14·76	13·45	14·73	24·10	18·22	21·22	24·52

Table No. 22.

Return for Ten Years showing the Quantity and Value of Wool and Woolled Skins Exporte Oversea from Queensalnd.

Year ended 30th June.	Greasy.		Scoured.		Woolled Skins.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Lb.	£	Lb.	£	Lb.	£
1928	98,572,221	8,290,737	10,645,113	1,529,291	3,330,919	179,349
1929	115,370,996	8,256,965	11,785,858	1,544,164	4,287,380	221,428
1930	122,023,953	5,898,865	10,911,832	1,015,954	5,720,343	177,406
1931	146,129,752	6,005,219	10,890,695	669,823	5,758,382	112,783
1932	149,541,226	5,367,646	14,198,049	795,779	5,018,095	77,968
1933	142,716,884	5,359,620	17,193,918	1,055,563	4,112,509	67,419
1934	128,534,115	8,094,432	18,716,446	1,879,241	2,934,525	84,241
1935	137,837,068	6,047,655	17,424,690	1,322,716	3,042,533	66,529
1936	109,839,914	6,603,031	14,334,775	1,267,637	2,076,107	68,150
1937	129,103,867	9,040,128	11,060,586	1,130,124	2,806,137	116,084

Table No. 23.

Return for Ten Years showing the Amount of Scoured Wool used in Manufacture.

——	1927-28.	1928-29.	1929-30.	1930-31.	1931-32	1932-33.	1933-34.	1934-35	1935-36.	1936-37.
	Lb.	Lb.	Lb.	Lb.	Lb.	Ln.	Lb.	Lb.	Lb.	Lb.
Quantity of Scoured Wool used in Manufacture ..	625,852	477,008	572,237	440,756	541,451	794,559	796,547	682,367	650,142	713,536

Table No. 24.

Return for Two Years showing the Export Oversea of Home Produce.

Value of—	1935–36.		1936–37.	
	Home Produce only.		Home Produce only.	
	Total Exports.	Percentage to Total Exports.	Total Exports.	Percentage to Total Exports.
	£		£	
Agricultural and Dairy Products	6,606,032	35·00	6,571,572	8·64
*Pastoral	10,640,099	56·38	13,720,201	59·79
Mineral	1,401,457	7·43	2,114,857	9·22
Other	223,839	1·19	540,076	2·35
Total	18,871,427	100·00	22,946,706	100·00

* Exclusive of Furred Skins :—1935–36, £36,747 ; 1936–37, £344,716.

Table No. 25

Return for Two Years showing the Details of Pastoral Products Exported Oversea.

Value of—	1935–36.	1936–37.	Increase or — Decrease, 1936–37.
	Home Produce only.		
	Exports Overseas.	Exports Overseas.	
	£	£	£
Pastoral Products—			
Wool	7,870,668	10,170,252	2,299,584
Live Stock (Horses, Cattle, and Sheep)	40,040	44,162	4,122
*Meat (all kinds, including Extract)	2,321,317	2,937,143	615,826
Tallow	137,799	156,919	19,120
†Hides and Skins	231,136	367,363	136,227
Leather	9,509	15,128	5,619
All Other	29,630	29,234	— 396
Total	10,640,099	13,720,201	3,080,102

* Exclusive of Bacon, Ham, Pork and Poultry, these being treated as products of Agriculture and Dairying—1935–36, £362,289 ; 1936–37, £333,118.

† Exclusive of Furred Skins—1935–36, £36,747 ; 1936–37, £344,716.

Table No. 26.

Return for Ten Years showing the Number of Common Goats in the State and the Number Killed for Food, &c.

Year ended 31st December—	Number Depastured at end of Year.	Number Killed for Food.	Dead Weight: Lb.	Average Dead Weight: Lb.	Number of Skins Sold or Utilised.
1927	95,227	16,657	470,378	28·24	10,447
1928	85,622	14,888	417,305	28·03	9,261
1929	82,360	14,983	434,380	28·99	9,581
1930	69,460	11,195	307,177	27·44	6,169
1931	73,739	14,483	375,872	25·95	6,632
1932	76,986	15,175	421,016	27·74	6,057
1933	81,768	16,973	479,312	28·24	8,082
1934	79,333	12,670	325,719	25·71	5,380
1935	75,063	11,359	321,926	28·34	2,807
1936	*81,407	12,379	372,008	30·05	†3,883

* Including 299 Saanen Goats. † Value of Skins, £271.

Table No. 27.

Return for Ten Years showing the Number of Angora Goats in the State and the Number Killed for Food, Mohair, Obtained, &c.

Year ended 31st December—	Number Depastured at end of Year.	Mohair Sold or Utilised.	Number Killed for Food.	Dead Weight: Lb.	Average Dead Weight: Lb.	Number of Skins Sold or Utilised.
		Lb.				
1927	2,354	1,765	303	9,629	31·78	239
1928	2,938	2,137	673	19,429	28·87	648
1929	2,215	1,425	467	14,127	30·25	360
1930	1,840	1,288	276	8,034	29·11	310
1931	1,683	972	205	5,955	29·05	145
1932	1,516	756	227	6,633	29·22	166
1933	1,375	444	178	5,195	29·19	106
1934	1,089	267	147	4,202	28·59	98
1935	1,179	192	151	3,970	26·29	88
1936	940	*207	96	2,915	30·37	†21

* Value of Mohair, £5. † Value of Skins, £2.

Table No. 28.

Return for Ten Years showing the Number of Camels, Donkeys, and Mules in the State, together with the Centesimal Increase or Decrease.

Year ended 31st December.	Number of Camels.	Increase or Decrease.	Number of Donkeys.	Increase or Decrease.	Number of Mules.	Increase or Decrease.
		%		%		%
1927	440	40·58	23	— 11·54	898	— 0·88
1928	466	5·91	25	8·70	980	9·13
1929	354	— 24·03	30	20·00	972	— 0·82
1930	215	— 39·27	18	— 40·00	627	— 35·49
1931	433	101·40	33	83·33	838	33·65
1932	502	15·94	44	33·33	798	— 4·77
1933	702	39·84	91	106·82	1,015	27·19
1934	614	— 12·54	42	— 53·85	758	— 25·32
1935	453	— 26·22	64	52·38	774	2·11
1936	324	— 28·48	30	— 53·13	938	21·19

— Decrease.

Table No. 29.

Return for Ten Years showing the Number of Calves Returned as Branded and the Centesimal Increase or Decrease. *For details for* 1936 *see Table* 31.

Year ended 31st December.	Male.	Increase or Decrease.	Female.	Increase or Decrease.	Total.	Increase or Decrease.
		%		%		%.
1927	374,849	— 8·51	420,822	— 6·56	795,671	— 7·49
1928	468,581	25·01	520,986	23·80	989,567	24·37
1929	468,006	— 0·12	528,548	1·45	996,554	0·71
1930	506,434	8·21	565,408	6·97	1,071,842	7·55
1931	489,148	— 3·41	559,251	— 1·09	1,048,399	— 2·19
1932	449,537	— 8·10	534,252	— 4·47	983,789	— 6·16
1933	488,928	8·76	572,843	7·22	1,061,771	7·93
1934	560,511	14·64	643,368	12·31	1,203,879	13·38
1935	501,533	— 10·52	594,058	— 7·66	1,095,591	— 8·99
1936	506,362	0·96	581,362	— 2·14	1,087,724	— 0·72

— Decrease.

Table No. 30.

RETURN SHOWING THE AREA OF THE VARIOUS PETTY SESSIONS DISTRICTS OF THE STATE, THE NUMBER OF HORSES, CATTLE, SHEEP AND PIGS THEREIN, AND THE INCREASE OR DECREASE OF CATTLE AND SHEEP ON 31ST DECEMBER, 1936.

Petty Sessions District.	Area in sq. Miles.	Horses.	Cattle.				Sheep.				Pigs.
		1936.	1935.	1936.	1936. Increase.	1936. Decrease.	1935.	1936.	1936. Increase.	1936. Decrease.	1936.
Adavale	4,419	950	4,865	8,823	3,958	..	176,960	213,912	36,952	..	..
Allora	324	3,433	15,515	13,377	..	2,138	8,294	6,821	..	1,473	3,504
Alpha	7,983	3,758	59,749	51,047	..	8,702	202,130	151,912	..	50,218	168
Aramac	6,757	2,057	4,745	4,092	..	653	475,164	503,539	28,375	..	..
Atherton	682	3,961	47,303	45,338	..	1,965	185	435	250	..	8,570
Augathella	5,264	2,297	32,025	31,210	..	815	203,096	270,856	67,760	..	29
Ayr	2,103	6,890	31,544	36,650	5,106	..	120	197	77	..	741
Banana	1,875	1,880	61,831	59,057	..	2,774	1,443	7,209	5,766	..	149
Barcaldine	3,862	1,618	3,803	3,921	118	..	439,346	508,512	69,166	..	233
Beaudesert	968	4,261	78,132	70,503	..	7,629	1,513	1,163	..	350	14,057
Biggenden	653	2,541	47,694	42,388	..	5,306	196	185	..	11	3,324
Blackall	8,297	2,714	5,702	7,132	1,430	..	632,270	744,817	112,547	..	77
Bollon	5,957	1,736	10,391	8,869	..	1,522	476,422	446,867	..	29,555	30
Boulia	21,027	2,556	41,318	48,332	7,014	..	150,581	195,703	45,122	..	28
Bowen	1,900	3,841	25,122	28,111	2,989	..	68	5	..	63	376
Brisbane	549	3,871	22,970	22,468	..	502	278	48	..	230	3,393
Bundaberg	1,460	6,137	63,404	61,736	..	1,668	2,322	1,937	..	385	1,794
Burke	18,228	2,565	77,825	74,595	..	3,230	23,486	24,713	1,227	..	3
Caboolture	304	836	9,694	9,599	..	95	509	231	..	278	857
Cairns	842	2,822	5,315	5,595	280	..	106	33	..	73	416
Camooweal	10,246	2,244	70,511	70,987	476	..	19,805	18,720	..	1,085	90
Cape River	8,083	5,028	88,364	95,887	7,523	..	353	408	55	..	130
Cardwell	1,057	2,076	7,255	8,055	800	..	..	..	..	..	142
Charleville	9,023	3,462	17,719	20,559	2,840	..	873,849	878,074	4,225	..	88
Charters Towers	9,921	9,800	171,386	194,257	22,871	..	851	766	..	85	1,053
Childers	647	1,944	15,245	14,934	..	311	..	..	..	..	334
Chillagoe	8,667	2,226	29,200	30,195	995	..	..	..	..	..	14
Chinchilla	2,311	3,964	69,066	58,984	..	10,082	42,393	37,036	..	5,357	2,969
Clermont	15,011	8,567	133,764	137,127	3,363	..	640,572	621,256	..	19,316	323
Cleveland	200	545	1,314	1,277	..	37	..	..	..	..	126
Clifton	408	5,574	21,789	19,686	..	2,103	25,052	22,519	..	2,533	5,418
Cloncurry	39,468	10,284	188,026	204,169	16,143	..	688,511	790,282	101,771	..	104
Coen	25,396	2,236	28,695	31,937	3,242	..	..	..	..	..	15
Collinsville	6,310	3,833	140,788	150,353	9,565	..	70	72	2	..	85
Condamine	3,592	3,840	76,170	71,176	..	4,994	70,147	70,295	148	..	952
Cook	23,921	3,986	86,066	84,174	..	1,892	..	..	..	..	30
Crow's Nest	365	2,830	28,446	26,111	..	2,335	73	20	..	53	9,799
Croydon	6,880	1,571	22,842	24,774	1,932	..	..	..	..	..	19
Cunnamulla	13,557	3,734	17,747	18,548	801	..	1,139,819	1,257,463	117,644	..	100
Dalby	6,797	9,867	151,103	130,907	..	20,196	638,623	624,824	..	13,799	8,442
Diamantina	22,684	1,194	37,804	36,890	..	914	..	..	..	..	2
Dirranbandi	4,715	2,365	11,316	10,948	..	368	742,587	767,369	24,782	..	116
Douglas	787	1,434	4,118	4,025	..	93	..	..	..	..	137
Dugandan	522	4,535	43,237	39,177	..	4,060	83	93	10	..	11,591
Eidsvold	2,383	2,552	65,184	59,874	..	5,310	392	314	..	78	1,394
Emerald	4,731	2,902	56,319	55,768	..	551	309,889	291,952	..	17,937	72
Esk	563	1,817	32,214	27,976	..	4,238	2,005	1,710	..	295	2,577
Etheridge	19,640	8,439	184,424	195,937	11,513	..	..	..	..	..	157
Eulo	5,476	1,010	7,734	6,360	..	1,374	324,363	328,626	4,263	..	..
Gatton	504	3,643	27,799	24,014	..	3,785	417	353	..	64	5,508
Gayndah	3,727	6,095	139,599	125,723	..	13,876	368	293	..	75	7,593
Gin Gin	1,056	3,391	58,877	57,519	..	1,358	245	214	..	31	520
Gladstone	3,457	6,595	158,856	155,134	..	3,722	2,347	2,137	..	210	2,450
Goondiwindi	4,385	3,355	55,060	47,109	..	7,951	569,986	655,355	85,369	..	242
Gympie	1,634	5,873	129,460	122,657	..	6,803	664	521	..	143	19,349
Harrisville	230	2,740	22,363	19,299	..	3,064	352	88	..	264	5,516
Herberton	5,345	4,454	70,844	74,375	3,531	..	35	65	30	..	672
Hughenden	9,944	4,250	57,719	54,359	..	3,360	659,758	715,800	56,042	..	64
Hungerford	3,917	629	5,135	6,319	1,184	..	175,107	180,081	4,974	..	4
Ingham	3,277	6,509	36,602	33,392	..	3,210	140	79	..	61	870
Inglewood	1,450	2,188	25,617	21,229	..	4,388	240,215	235,554	..	4,661	633
Innisfail	572	3,144	5,129	5,278	149	..	63	..	..	63	114
Ipswich Goodna	61	1,855	2,333	14,071	..	4,252	13	225	..	45	1,404
Ipswich	167		15,990				257				
Isisford	7,929	1,978	5,996	4,425	..	1,571	379,278	489,720	110,442	..	28
Julia Creek	10,647	2,999	45,595	45,586	..	9	290,760	386,623	95,863	..	20
Jundah	10,977	1,929	18,687	20,228	1,541	..	152,812	175,324	22,512	..	..
Kilcoy	305	1,177	19,009	16,915	..	2,094	159	74	..	85	3,470
Kilkivan	333	1,133	21 696	20,443	..	1,253	109	105	..	4	1,362
Killarney	234	2,266	13,354	11,046	..	2,308	4,042	3,094	..	948	1,434
Laidley	222	2,876	18,400	15,401	..	2,999	590	51	..	539	3,732
Logan	239	1,680	16,000	14,550	..	1,450	200	198	..	2	2,153
Longreach	12,117	4,665	7,588	10,884	3,296	..	837,056	1,247,931	410,875	..	125
Lowood	208	1,790	17,065	14,358	..	2,707	..	..	..	..	3,287
Mackay	8,003	21,118	154,903	159,026	4,123	..	1,588	1,432	..	156	1,822
Marburg	53	1,821	8,552	7,045	..	1,507	10	8	..	2	2,727
Mareeba	2,842	3,176	19,511	21,446	1,935	..	7	..	..	7	331
Maroochy	702	3,248	52,258	50,207	..	2,051	261	241	..	20	8,562
Maryborough	1,697	3,399	26,544	23,962	..	2,582	556	656	100	..	1,071
Mitchell	10,387	5,811	77,859	71,198	..	6,661	590,916	589,659	..	1,257	210
Monto	1,773	4,214	66,764	69,740	2,976	..	2,466	2,480	14	..	4,967
Mount Isa	1,395	425	1,603	1,822	219	..	8	..	..	8	10
Mount Morgan	3,246	7,401	109,283	111,957	2,674	..	3,162	2,944	..	218	8,103
Mount Perry	868	1,319	34,814	35,091	277	..	11	9	..	2	67
Muttaburra	11,390	2,371	7,057	6,451	..	606	719,833	934,191	214,358	..	1
Nanango	1,755	10,397	115,508	108,302	..	7,206	2,226	2,022	..	204	23,225
Norman	25,570	5,990	182,087	201,913	19,826	..	4,619	5,143	524	..	..
Oakey	1,398	8,399	89,212	79,678	..	9,534	135,751	108,187	..	27,564	20,157
Pittsworth	1,862	5,709	50,769	44,072	..	6,697	205,151	150,847	..	54,304	7,754
Proserpine	829	4,006	14,213	13,870	..	343	1,803	1,812	9	..	224

Table No. 30—*continued.*

RETURN SHOWING THE AREA OF THE VARIOUS PETTY SESSIONS DISTRICTS OF THE STATE, THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS THEREIN AND THE INCREASE OR DECREASE OF CATTLE AND SHEEP ON 31ST DECEMBER, 1936.

Petty Sessions District.	Area in sq. Miles.	Horses.	Cattle.				Sheep.				Pigs.
		1936.	1936.	1936.	1936. Increase.	1936. Decrease.	1935.	1936.	1936. Increase.	1936. Decrease.	1936.
Quilpie	14,227	2,676	27,044	29,400	2,356	..	635,558	651,149	15,591	..	4
Ravenswood	1,152	1,022	13,511	18,405	4,894	..	..	..	..	..	44
Redcliffe..	252	1,457	19,212	17,723	..	1,489	228	276	48	..	1,232
Richmond	13,354	4,768	46,277	54,661	8,384	..	565,652	784,388	218,736	..	2
Rockhampton	13,752	14,423	376,952	386,008	9,056	..	23,375	22,814	..	561	3,856
Roma	6,394	7,640	83,085	85,491	2,406	..	541,056	543,464	2,408	..	1,154
Rosewood	264	2,344	23,506	19,860	..	3,646	2,328	3,135	807	..	4,248
St. George	3,402	1,344	10,735	8,335	..	2,400	366,901	363,199	..	3,702	91
St. Lawrence	7,129	4,296	130,845	143,935	13,090	..	2,646	2,656	10	..	63
Somerset	4,586	226	1,101	1,173	72	..	..	..	..	..	53
Southport	502	2,039	39,886	38,264	..	1,622	421	541	120	..	6,129
Springsure	10,230	4,977	97,837	96,917	..	920	297,682	297,240	..	442	116
Stanthorpe	1,110	1,580	11,890	8,857	..	3,033	255,244	259,292	4,048	..	121
Surat	4,248	1,860	13,868	12,906	..	962	544,418	540,200	..	4,218	19
Tambo	5,553	1,987	20,633	17,988	..	2,645	338,024	449,325	111,301	..	3
Taroom	5,448	8,000	112,796	82,404	..	30,392	23,331	21,032	..	2,299	17
Texas	530	1,170	10,492	10,496	4	..	106,095	125,649	19,554	..	348
Thargomindah	22,819	2,246	50,342	58,523	8,181	..	44,860	44,731	..	129	57
Tiaro	2,607	8,076	55,024	51,512	..	3,512	239	254	15	..	2,746
Toogoolawah	801	3,282	54,266	48,533	..	5,733	425	461	36	..	6,284
Toowoomba	543	6,360	46,253	39,132	..	7,121	15,287	4,936	..	10,351	8,999
Townsville	2,619	2,642	23,409	26,559	3,150	..	949	741	..	208	1,615
Warwick	1,358	7,655	58,251	41,610	..	11,641	241,515	215,316	..	26,199	4,302
Wienholt	2,269	10,115	142,939	133,425	..	9,514	662	475	..	187	27,475
Windorah	17,832	3,069	48,743	50,085	1,342	..	127,825	171,743	43,918	..	2
Winton	23,146	3,895	27,020	33,617	6,597	..	624,641	823,373	198,732	..	8
Woodford	202	1,026	17,880	17,170	..	710	328	536	208	..	2,779
Wynnum	28	388	1,610	1,751	141	..	84	32	..	52	53
Yeulba	591	872	10,094	11,843	1,749	..	3,052	381	..	2,671	226
Total in State, 1936..	670,500	441,536	..	*5,950,572	..	..	..	20,011,749	..	..	290,855
Total in State, 1935..		441,913	..	†6,033,004	..	..	..	18,060,093	..	..	304,888
Increase, 1936 ..	..	..	..	..	..	..	..	..	1,951,656		..
Decrease, 1936 ..	..	377	..	..	82,432		..	..	..		14,033
Centesimal Increase, 1936	..	..	..	..	..		..	..	10·81		..
Centesimal Decrease, 1936	..	0·09	..	..	1·37		..	..	..		4·60

* Including 879,418 Dairy Cows. † Including 918,766 Dairy Cows.

Table No. 31.

RETURN SHOWING NUMBER OF CALVES RETURNED AS BRANDED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEARS 1935 AND 1936, THE CENTESIMAL INCREASE OR DECREASE, ALSO THE NUMBER OF CATTLE AND SHEEP KILLED FOR FARM OR STATION USE DURING THE LATTER YEAR.

Petty Sessions District.	Male.			Female.			Cattle Killed.	Sheep Killed
	1935.	1936	Increase or Decrease.	1935.	1936.	Increase or Decrease.	1936.	1936.
Adavale	361	1,134	214·13	347	1,123	223·63	51	2,205
Allora	1,034	531	— 48·65	1,411	1,014	— 28·14	53	145
Alpha	6,479	4,527	— 30·13	6,587	4,448	— 32·47	306	1,724
Aramac	508	441	— 13·19	470	406	— 13·62	62	5,638
Atherton	379	286	— 24·54	3,055	2,694	— 11·82	57	..
Augathella	4,098	3,496	— 14·69	4,201	3,494	— 16·83	342	3,337
Ayr	2,070	2,331	12·61	2,091	2,402	14·87	21	..
Banana	7,310	5,938	— 18·77	7,222	5,902	— 18·28	401	55
Barcaldine	377	392	3·98	374	351	— 6·15	32	6,342
Beaudesert	1,822	1,495	— 17·95	5,403	4,593	— 14·99	110	50
Biggenden	2,341	1,485	— 36·57	4,625	3,438	— 25·66	150	1
Blackall	845	688	— 18·58	866	685	— 20·90	149	9,987
Bollon	525	800	52·38	574	747	30·14	289	7,161
Boulia	2,919	4,002	37·10	2,822	3,956	40·18	339	1,497
Bowen	2,487	2,764	11·14	2,542	2,787	9·64	121	..
Brisbane	43	81	88·37	1,314	1,235	— 6·01	1	..
Bundaberg	3,508	2,991	— 14·74	5,715	4,882	— 14·58	291	45
Burke	5,498	9,199	67·32	5,704	9,335	63·66	519	105
Caboolture	68	132	94·12	921	840	— 8·79	32	26
Cairns	203	220	8·37	304	297	— 2·30	44	..
Camooweal	7,480	9,338	24·84	7,573	9,649	27·41	368	100
Cape River	8,179	9,861	20·56	8,251	10,050	21·80	444	18
Cardwell	701	783	11·70	733	896	22·24	45	..
Charleville	1,587	1,207	— 23·94	1,542	1,226	— 20·49	343	11,109
Charters Towers	20,823	24,728	18·75	20,641	24,421	18·31	898	10
Childers	1,080	895	— 17·13	1,401	1,300	— 7·21	29	..
Chillagoe	3,120	3,426	9·81	3,164	3,299	4·27	254	..
Chinchilla	6,863	4,353	— 36·57	7,584	5,315	— 29·92	224	226
Clermont	13,490	14,007	3·83	13,457	13,640	1·36	880	7,356
Cleveland	7	3	— 57·14	51	53	3·92	15	..
Clifton	1,138	694	— 39·02	2,269	1,629	— 28·21	83	437
Cloncurry	22,416	29,618	32·13	22,564	29,809	32·11	1,434	5,490
Coen	3,817	4,110	7·68	3,688	4,243	15·05	245	..
Collinsville	12,341	16,629	34·75	12,365	16,643	34·60	598	..
Condamine	8,336	6,643	— 20·31	8,396	6,776	— 19·29	564	644
Cook	10,279	9,962	— 3·08	9,839	9,734	— 1·07	526	..
Crow's Nest	1,149	979	— 14·80	2,192	1,745	— 20·39	97	..
Croydon	2,515	3,227	28·31	2,534	3,063	20·88	154	..
Cunnamulla	1,826	1,700	— 6·90	1,694	1,872	10·51	153	15,597
Dalby	12,016	9,243	— 23·08	15,102	12,153	— 19·53	651	6,350
Diamantina	3,479	3,278	— 5·78	3,328	3,115	— 6·40	185	..
Dirranbandi	896	1,295	44·53	898	1,277	42·20	211	12,201
Douglas	106	168	58·49	232	294	26·72	24	..
Dugandan	1,235	1,118	— 9·47	3,098	2,683	— 13·40	97	8
Eidsvold	4,703	5,990	27·37	6,478	6,508	0·46	293	30
Emerald	7,833	6,522	— 16·74	7,707	6,407	— 16·87	168	3,021
Esk	1,276	2,059	61·36	1,834	1,426	— 22·25	51	36
Etheridge	19,671	25,672	30·51	19,563	25,364	29·65	966	..
Eulo	654	424	— 35·17	656	607	— 7·47	61	4,770
Gatton	1,120	684	— 38·93	1,779	949	— 46·66	66	9
Gayndah	8,180	7,433	— 9·13	11,942	10,429	— 12·67	446	25
Gin Gin	5,113	4,550	— 11·01	5,788	5,109	— 11·73	313	25
Gladstone	10,401	10,470	0·66	13,329	12,546	— 5·87	433	36
Goondiwindi	6,756	5,564	— 17·64	6,726	5,436	— 19·18	397	8,082
Gympie	1,706	1,401	— 17·88	9,717	8,118	— 16·46	238	..
Harrisville	701	384	— 45·22	1,827	1,149	— 37·11	50	5
Herberton	7,762	8,049	3·70	8,100	8,279	2·21	272	..
Hughenden	5,011	5,516	10·08	4,936	5,499	11·41	462	5,933
Hungerford	456	360	— 21·05	475	366	— 22·95	104	2,275
Ingham	3,249	3,235	— 0·43	3,130	3,345	6·87	169	..
Inglewood	3,125	2,215	— 29·12	3,341	2,365	— 29·21	205	3,163
Innisfail	210	195	— 7·14	306	264	— 13·73	14	..
Ipswich { Goodna	59	271	— 28·87	173	1,149	— 32·96	3	17
Ipswich { Ipswich	322			1,541				
Isisford	521	365	— 29·94	585	348	— 40·51	55	7,353
Julia Creek	3,519	4,763	35·35	4,053	5,089	25·56	305	4,329
Jundah	1,925	2,729	41·77	2,022	2,714	34·22	167	1,897
Kilcoy	387	299	— 22·74	1,425	1,082	— 24·07	85	16
Kilkivan	990	853	— 13·84	1,795	1,523	— 15·15	51	12
Killarney	709	433	— 38·93	1,275	745	— 41·57	49	118
Laidley	430	275	— 36·05	1,205	734	— 39·09	48	..
Logan	93	41	— 55·91	969	723	— 25·39	12	1
Longreach	655	1,028	56·95	691	1,039	50·36	88	14,778
Lowood	540	404	— 25·19	898	663	— 26·17	32	..

Table No. 31—*continued.*

RETURN SHOWING NUMBER OF CALVES RETURNED AS BRANDED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE DURING THE YEARS 1935 AND 1936, THE CENTESIMAL INCREASE OR DECREASE, ALSO THE NUMBER OF CATTLE AND SHEEP KILLED FOR FARM OR STATION USE DURING THE LATTER YEAR.

Petty Sessions District.	Male.			Female.			Cattle Killed.	Sheep Killed.
	1935.	1936.	Increase or Decrease.	1935.	1936.	Increase or Decrease.	1936.	1936.
Mackay	14,020	14,596	4·11	14,802	15,693	6·02	459	14
Marburg	96	32	— 66·67	707	317	— 55·16	17	..
Mareeba	1,926	1,712	— 11·11	1,975	1,868	— 5·42	95	..
Maroochy	401	405	1·00	3,520	3,445	— 2·13	96	6
Maryborough	1,099	822	— 25·20	2,202	1,554	— 29·43	42	3
Mitchell	9,913	8,418	— 15·08	10,063	8,620	— 14·34	769	6,350
Monto	4,483	4,154	— 7·34	6,814	6,551	— 3·86	372	37
Mount Isa	190	298	56·84	202	242	19·80	26	..
Mount Morgan	7,807	7,121	— 8·79	10,615	9,833	— 7·37	480	56
Mount Perry	3,449	2,629	— 23·78	3,463	2,601	— 24·89	120	..
Muttaburra	757	643	— 15·06	733	573	— 21·83	104	9,268
Nanango	5,516	4,450	— 19·33	9,622	7,867	— 18·24	395	29
Norman	21,092	24,990	18·48	21,069	24,862	18·00	910	..
Oakey	3,898	2,338	— 40·02	8,297	6,010	— 27·56	282	1,926
Pittsworth..	2,976	2,046	— 31·25	4,876	3,726	— 23·58	101	2,755
Proserpine	1,221	1,445	18·35	1,342	1,589	18·41	58	120
Quilpie	2,628	2,957	12·52	2,628	2,994	13·93	338	6,718
Ravenswood	1,777	2,649	49·07	1,635	2,605	59·33	89	..
Redcliffe	95	54	— 43·16	1,254	948	— 24·40	1	..
Richmond	4,222	5,928	40·41	4,200	5,893	40·31	299	8,571
Rockhampton	36,623	33,949	— 7·30	39,874	36,706	— 7·95	1,562	169
Roma	11,275	10,189	— 9·63	11,433	10,407	— 8·97	853	5,005
Rosewood	431	301	— 30·16	1,629	1,117	— 31·43	37	15
St. George	1,111	1,097	— 1·26	1,044	1,107	6·03	196	6,557
St. Lawrence	13,573	15,128	11·46	13,329	15,071	13·07	631	47
Somerset	91	105	15·38	61	111	81·97	36	..
Southport	355	232	— 34·65	3,328	3,197	— 3·94	23	..
Springsure	13,930	11,559	— 17·02	14,034	11,523	— 17·89	662	2,757
Stanthorpe	934	659	— 29·44	1,008	748	— 25·79	70	1,900
Surat	1,723	1,054	— 38·83	1,655	995	— 39·88	381	6,793
Tambo	1,518	1,405	— 7·44	1,529	1,401	— 8·37	232	6,786
Taroom	13,174	9,688	— 26·46	13,499	9,797	— 27·42	684	287
Texas	940	954	1·49	1,025	1,030	0·49	80	1,599
Thargomindah	5,958	6,374	6·98	5,845	6,332	8·33	586	263
Tiaro	2,234	2,164	— 3·13	4,974	3,643	— 26·76	166	..
Toogoolawah	2,311	1,854	— 19·77	3,701	2,983	— 19·40	126	..
Toowoomba	1,619	789	— 51·27	4,474	2,980	— 33·39	47	247
Townsville..	2,199	2,173	— 1·18	2,188	2,242	2·47	96	..
Warwick	4,082	2,719	— 33·39	4,958	3,415	— 31·12	203	2,638
Wienholt	6,154	5,538	— 10·01	11,398	9,830	— 13·76	309	20
Windorah	4,201	4,700	11·88	4,286	4,667	8·89	511	2,051
Winton	2,190	2,328	6·30	2,494	2,301	— 7·74	300	10,130
Woodford	301	277	— 7·97	1,589	1,316	— 17·18	30	14
Wynnum	3	4	33·33	62	60	— 3·23	..	..
Yeulba	1,206	1,053	— 12·69	1,212	1,103	— 8·99	96	21
Total	501,533	506,362	0·96	594,058	581,362	— 2·14	30,465	236,897

Table No. 32.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CATTLE AND SHEEP KILLED IN THE STATE FOR FARM OR STATION USE, ALSO THE CENTESIMAL INCREASE OR DECREASE. *For details for* 1936, *see Table* 31.

Year ended 31st December.	Cattle.	Increase or Decrease.	Sheep.	Increase or Decrease.
		%		%
1927	35,885	— 7·07	193,629	0·04
1928	32,068	— 10·64	197,845	2·18
1929	28,194	— 12·08	229,329	15·91
1930	24,802	— 12·03	259,586	13·19
1931	26,857	8·29	268,541	3·45
1932	28,791	7·20	268,876	0·12
1933	30,973	— 7·58	267,644	— 0·46
1934	32,519	4·99	261,198	— 2·41
1935	31,578	— 2·89	254,807	— 2·45
1936	30,465	— 3·52	236,897	— 7·03

— Decrease.

Table No. 33.

Return for Ten Years showing the Number of Calves returned as Branded in the several Pastoral Districts of the State.

Year ended 31st December.	Burke.		Burnett.		Cook.		Darling Downs.		Gregory North.		Gregory South.		Leichhardt.		Maranoa.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1927	57,957	58,682	31,635	40,062	40,746	42,888	28,374	34,813	8,684	9,299	10,816	11,022	42,804	43,503	18,010	17,843
1928	67,279	67,954	35,508	47,385	54,459	55,892	35,612	43,770	1,535	1,552	12,676	12,870	66,044	65,327	16,660	16,514
1929	73,733	76,538	37,483	49,664	49,074	51,864	38,616	46,373	2,826	2,828	6,183	5,819	67,980	67,752	18,052	17,758
1930	69,158	68,250	41,851	54,769	52,893	55,761	40,859	48,230	7,318	7,482	5,669	5,566	79,533	80,083	18,128	17,545
1931	72,541	72,645	39,334	54,289	52,572	55,490	42,215	52,101	11,092	11,157	7,917	7,295	75,063	75,376	18,016	17,825
1932	63,072	63,691	32,830	48,809	48,969	53,136	44,526	57,120	14,596	14,336	9,527	9,042	65,958	66,764	18,508	18,902
1933	64,464	65,906	30,842	47,942	41,914	45,924	45,911	58,292	16,281	16,190	10,366	10,050	82,555	83,947	22,041	21,023
1934	76,453	76,672	35,896	55,500	50,347	52,507	53,131	66,898	21,606	20,745	11,955	11,877	91,545	91,961	22,584	22,844
1935	51,533	52,400	33,479	52,346	52,904	55,378	50,662	65,805	16,225	16,265	9,772	9,748	90,752	91,665	21,951	22,012
1936	68,898	69,546	29,892	44,776	61,405	63,871	36,190	49,266	18,795	18,851	10,621	10,610	80,909	81,958	19,765	19,947

Year ended 31st December.	Mitchell.		Moreton.		North Kennedy.		Port Curtis.		South Kennedy.		Warrego.		Wide Bay.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1927	5,380	5,548	15,406	29,274	40,249	40,221	22,629	26,418	27,388	28,626	11,162	10,745	13,609	21,878	374,849	420,822
1928	7,301	7,424	20,938	37,035	53,152	53,313	32,670	37 791	36,995	36,653	12,402	12,160	15,350	25,346	468,581	520,986
1929	7,770	7,623	25,466	44,262	42,155	42,180	31,860	40,399	37,650	37,355	8,997	9,147	17,161	28,986	468,006	528,548
1930	9,719	9,737	25,456	45,725	44,827	44,962	38,956	42,872	44,004	43,734	10,282	10,360	17,781	30,332	506,434	565,408
1931	7,723	7,751	23,187	45,234	45,145	45,192	38,451	44,380	27,628	27,696	10,668	10,409	17,546	32,411	489,148	559,251
1932	9,337	9,322	18,354	44,632	36,957	37,186	34,265	41,769	26,915	27,286	12,078	11,967	13,645	30,290	449,537	534,252
1933	8,838	8,989	14,865	40,321	53,348	53,413	33,359	41,128	40,167	40,673	12,446	12,366	11,531	26,679	488,928	572,843
1934	7,204	7,174	15,424	41,115	59,897	59,714	43,146	48,408	44,845	45,718	11,974	11,860	14,504	30,375	560,511	643,368
1935	6,762	6,932	15,484	42,656	52,246	52,459	40,560	49,990	32,269	32,916	12,620	12,489	14,314	30,997	501,533	594,058
1936	5,935	5,752	12,945	33,589	59,958	60,367	39,679	47,586	36,160	36,647	12,736	13,062	12,474	26,034	506,362	581,362

TABLE No. 34

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CATTLE AND SHEEP IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE.

At 31st Dec.	Burke.		Burnett.		Cook.		Darling Downs.		Gregory North.		Gregory South.		Leichhardt.		Maranoa.	
	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.
1927 ..	640,707	2,523,372	463,258	9,815	495,975	3,355	414,658	2,495,527	135,913	1,054,398	152,891	292,261	533,485	1,050,723	213,221	2,951,182
1928 ..	582,748	2,313,118	483,320	7,762	489,935	3,042	429,716	2,637,366	58,147	702,502	112,514	221,216	562,465	1,172,793	188,546	3,366,073
1929 ..	586,242	2,772,704	506,443	8,161	472,041	2,506	450,071	2,945,532	65,545	1,215,608	83,170	203,830	595,395	1,252,201	176,690	3,542,002
1930 ..	624,489	3,118,929	547,920	7,884	480,650	1,818	469,690	2,757,931	76,530	1,708,231	65,443	327,585	646,023	1,264,970	167,801	3,559,542
1931 ..	612,691	3,006,501	568,567	7,092	513,174	1,246	491,550	2,697,272	95,671	1,963,870	87,917	409,808	656,041	931,260	164,581	3,476,600
1932 ..	558,984	2,180,585	548,849	5,644	501,147	751	509,785	2,570,075	122,354	1,802,425	93,710	446,819	657,561	873,221	170,335	3,606,726
1933 ..	589,181	2,676,981	556,088	4,161	499,581	538	552,706	2,543,077	153,281	1,626,033	107,641	432,215	694,426	966,409	179,551	3,357,087
1934 ..	568,008	2,595,492	581,404	4,398	497,111	302	608,313	2,612,978	183,521	1,672,909	112,585	484,814	742,965	1,077,362	187,422	3,818,971
1935 ..	535,698	1,652,857	583,634	6,042	510,183	361	641,660	2,557,271	163,971	1,036,174	99,500	397,975	777,052	1,140,818	184,761	3,738,455
1936 ..	560,429	2,084,898	548,322	5,498	539,277	468	552,113	2,519,353	178,671	1,325,769	107,981	454,863	752,003	1,161,181	179,441	3,646,470

At 31st Dec.	Mitchell.		Moreton.		North Kennedy.		Port Curtis.		South Kennedy.		Warrego.		Wide Bay.		Total.	
	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.	Cattle.	Sheep.
1927 ..	90,554	3,715,045	496,342	22,133	442,700	9,928	387,349	29,320	304,395	176,627	152,377	2,303,993	301,979	4,706	5,225,804	16,642,385
1928 ..	68,569	4,893,564	520,775	20,190	461,951	6,589	415,192	29,830	317,997	213,677	128,118	2,915,641	308,348	5,838	5,128,341	18,509,201
1929 ..	67,762	5,337,072	561,468	18,097	454,220	6,718	429,675	33,206	334,775	245,928	101,148	2,735,225	323,943	5,513	5,208,588	20,324,303
1930 ..	74,767	6,280,786	584,841	16,145	462,832	6,950	463,750	31,701	367,446	245,222	96,445	3,208,332	335,097	6,017	5,463,724	22,542,043
1931 ..	72,340	6,126,561	608,304	13,396	435,463	4,195	482,234	28,083	299,127	171,189	103,682	3,481,826	359,050	5,379	5,550,399	22,324,278
1932 ..	85,763	6,071,563	601,566	9,968	437,422	6,140	464,323	27,439	317,989	152,443	113,281	3,554,528	351,996	4,538	5,535,065	21,312,865
1933 ..	80,637	5,124,159	590,867	8,372	472,667	4,684	486,273	27,472	349,810	218,664	114,813	3,077,736	353,648	4,616	5,781,170	20,072,804
1934 ..	76,258	5,611,084	605,864	7,829	502,024	5,586	517,459	25,409	378,663	257,246	123,381	3,388,753	367,663	4,049	6,052,641	21,574,182
1935 ..	69,171	4,179,095	593,591	11,086	489,586	4,049	536,711	28,781	359,271	295,968	120,215	3,006,984	368,000	4,227	6,033,004	18,060,093
1936 ..	65,083	5,140,402	533,870	9,848	536,207	3,773	554,509	27,850	364,706	238,575	128,688	3,389,061	349,272	3,740	5,950,572	20,011,749

Table No. 35.

RETURN OF THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS, IN THE VARIOUS PASTORAL DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1935 AND 1936, TOGETHER WITH THE NUMERICAL AND CENTESIMAL INCREASE OR DECREASE DURING THE YEAR.

Pastoral District.	Year.	Horses.	Cattle.	Sheep.	Pigs.	Numerical Increase or Decrease –				Centesimal Increase or Decrease –			
						Horses.	Cattle.	Sheep.	Pigs.	Horses.	Cattle.	Sheep.	Pigs.
Burke ..	1935 1936	29,737 29,755	535,698 560,429	1,652,857 2,084,898	436 252	18	24,731	432,041	– 184	0·06	4·62	26·14	– 42·20
Burnett ..	1935 1936	35,899 35,321	583,634 548,322	6,042 5,498	65,366 65,387	– 578	– 35,312	– 544	21	– 1·61	– 6·05	– 9·00	0·03
Cook ..	1935 1936	34,202 34,014	510,183 539,277	361 468	10,441 9,843	– 188	29,094	107	– 598	– 0·55	5·70	29·64	– 5·73
Darling Downs	1935 1936	62,831 61,158	641,660 552,113	2,557,271 2,519,353	68,241 60,089	– 1,673	– 89,547	– 37,918	– 8,152	– 2·66	– 13·96	– 1·48	– 11·95
Gregory North	1935 1936	9,502 10,202	163,971 178,671	1,036,174 1,325,769	102 83	700	14,700	289,595	– 19	7·37	8·96	27·95	– 18·63
Gregory South	1935 1936	6,018 6,020	99,500 107,981	397,975 454,863	37 13	2	8,481	56,888	– 24	0·03	8·52	14·29	– 64·86
Leichhardt	1935 1936	38,474 38,516	777,052 752,003	1,140,818 1,161,181	1,711 1,948	42	– 25,049	20,363	237	0·11	– 3·22	1·78	13·85
Maranoa ..	1935 1936	20,298 21,159	184,761 179,441	3,738,455 3,646,470	1,327 1,644	861	– 5,320	– 91,985	317	4·24	– 2·88	– 2·46	23·89
Mitchell ..	1935 1936	19,193 19,661	69,171 65,083	4,179,095 5,140,402	398 479	468	– 4,088	961,307	81	2·44	– 5·91	23·00	20·35
Moreton ..	1935 1936	54,414 52,966	593,591 533,870	11,086 9,848	113,029 102,141	– 1,448	– 59,721	– 1,238	–10,888	– 2·66	– 10·06	– 11·17	– 9·63
North Kennedy	1935 1936	43,594 45,018	489,586 536,207	4,049 3,773	4,771 5,913	1,424	46,621	– 276	1,142	3·27	9·52	– 6·82	23·94
Port Curtis	1935 1936	27,008 26,376	536,711 554,509	28,731 27,850	8,300 9,665	– 632	17,798	– 881	1,365	– 2·34	3·32	– 3·07	16·45
South Kennedy	1935 1936	22,507 21,842	359,271 364,706	295,968 238,575	1,546 1,537	– 665	5,435	– 57,393	– 9	– 2·95	1·51	– 19·39	– 0·58
Warrego ..	1935 1936	12,702 14,003	120,215 128,688	3,006,984 3,389,061	320 274	1,301	8,473	382,077	– 46	10·24	7·05	12·71	– 14·38
Wide Bay	1935 1936	25,534 25,525	368,000 349,272	4,227 3,740	28,863 31,587	– 9	– 18,728	– 487	2,724	– 0·04	– 5·09	– 11·52	9·44
Total in State	1935 1936	441,913 441,536	6,033,004 5,950,572	18,060,093 20,011,749	304,888 290,855	– 377	– 82,432	1,951,656	–14,033	– 0·09	– 1·37	10·81	– 4·60

Pastoral and Petty Sessions Districts.

Pastoral District.	Petty Sessions District.
Burke ..	Burke Camooweal Mt. Isa Richmond Cloncurry, part of Croydon, part of Hughenden, part of Julia Creek, part of Norman, part of
Burnett ..	Gayndah Monto Mount Perry Wienholt Biggenden, part of Eidsvold, part of Gin Gin, part of Nanango, part of
Cook ..	Atherton Cairns Chillagoe Coen Cook Douglas Etheridge Innisfail Mareeba Somerset Croydon, part of Herberton, part of Norman, part of
Darling Downs	Allora Chinchilla Dalby Goondiwindi Inglewood Killarney Pittsworth Stanthorpe Texas Warwick
Darling Downs —*contd.*	Clifton, part of Condamine, part of Crow's Nest, part of Oakey, part of Toowoomba, part of
Gregory North	Boulia Winton Cloncurry, part of Diamantina, part of Julia Creek, part of Jundah, part of Windorah, part of
Gregory South	Adavale, part of Diamantina, part of Quilpie, part of Thargomindah, part of Windorah, part of
Leichhardt	Banana Emerald Springsure Taroom Clermont, part of Condamine, part of Eidsvold, part of Mackay, part of Mount Morgan, part of Rockhampton, part of Roma, part of St. Lawrence, part of
Maranoa	Bollon Dirranbandi Mitchell St. George Surat Yeulba Charleville, part of Cunnamulla, part of Roma, part of
Mitchell	Barcaldine Isisford
Mitchell —*contd.*	Longreach Muttaburra Alpha, part of Aramac, part of Blackall, part of Hughenden, part of Jundah, part of Tambo, part of
Moreton	Beaudesert Brisbane Caboolture Cleveland Dugandan Esk Gatton Harrisville Ipswich Kilcoy Laidley Logan Lowood Marburg Redcliffe Rosewood Southport Toogoolawah Wynnum Clifton, part of Crow's Nest, part of Gympie, part of Kilcoy, part of Maroochy, part of Nanango, part of Oakey, part of Toowoomba, part of Woodford part of
North Kennedy	Ayr Bowen Cardwell Charters Towers Ingham
North Kennedy —*contd.*	Proserpine Ravenswood Townsville Cape River, part of Collinsville, part of Herberton, part of Mackay, part of
Port Curtis	Gladstone Bundaberg, part of Mackay, part of Mount Morgan, part of Rockhampton, part of St. Lawrence, part of
South Kennedy	Alpha, part of Aramac, part of Cape River, part of Clermont, part of Collinsville, part of Mackay, part of
Warrego	Augathella Eulo Hungerford Adavale, part of Blackall, part of Charleville, part of Cunnamulla, part of Quilpie, part of Tambo, part of Thargomindah, part of
Wide Bay	Childers Kilkivan Maryborough Tiaro Biggenden, part of Bundaberg, part of Gin Gin, part of Gympie, part of Kilcoy, part of Maroochy, part of Woodford, part of

Table No. 36

RETURN FOR TEN YEARS SHOWING THE DENSITY OF LIVE STOCK IN THE STATE.

(In Converting Horses and Cattle to terms of Sheep, Ten Head of Sheep are taken as Equal to One Horse or Head of Cattle.)

At 31st December.	Horses.			Cattle.			Sheep.			All Kinds in Terms of Sheep.		
	Acres per Head.	Number per Square Mile.	Number per Capita Population.	Acres per Head.	Number per Square Mile.	Number per Capita Population.	Acres per Head.	Number per Square Mile.	Number per Capita Population.	Acres per Head.	Number per Square Mile.	Number per Capita Population.
1927	783	0·82	0·63	82	7·79	5·96	26	24·82	18·99	5·77	110·94	84·86
1928	821	0·78	0·59	84	7·65	5·76	23	27·61	20·77	5·72	111·88	84·19
1929	858	0·75	0·55	82	7·77	5·77	21	30·31	22·52	5·54	115·45	85·79
1930	891	0·72	0·53	79	8·15	5·96	19	33·62	24·58	5·23	122·29	89·42
1931	914	0·70	0·50	77	8·28	5·97	19	33·29	24·01	5·20	123·08	88·74
1932	948	0·67	0·48	78	8·26	5·89	20	31·79	22·69	5·29	121·09	86·43
1933	954	0·67	0·47	74	8·62	6·09	21	29·94	21·15	5·21	122·87	86·79
1934	957	0·67	0·47	71	9·03	6·31	20	32·18	22·48	4·96	129·14	90·24
1935	971	0·66	0·46	71	9·00	6·21	24	26·94	18·60	5·18	123·50	85·31
1936	972	0·66	0·45	72	8·87	6·06	21	29·85	20·38	5·11	125·18	85·46

Table No. 37.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS OF CATTLE UNDER VARIOUS GROUPINGS IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1936.

Pastoral District.	1–99.		100–199.		200–299.		300–499.		500–999.	
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.
Burke	371	9,266	44	5,627	26	6,306	31	11,292	38	26,864
Burnett	4,219	183,432	643	85,418	166	40,593	124	46,951	117	77,750
Cook	1,862	51,653	138	18,243	38	8,697	31	12,017	30	20,158
Darling Downs	7,374	243,543	802	108,747	201	48,209	118	42,516	71	48,540
Gregory North	172	3,915	7	1,064	8	1,801	12	4,711	11	8,225
Gregory South	65	1,965	11	1,480	3	771	3	1,204	6	4,699
Leichhardt	1,976	41,786	261	37,060	129	30,656	139	52,624	172	121,004
Maranoa	1,261	37,007	185	24,991	72	17,735	45	16,894	28	18,345
Mitchell	705	16,820	48	6,624	17	4,225	14	5,275	12	8,046
Moreton	10,685	322,282	710	96,016	146	34,575	85	32,665	45	28,644
North Kennedy	2,273	42,011	116	15,765	61	14,841	59	23,535	53	37,862
Port Curtis	2,760	102,710	419	57,606	126	30,742	120	46,942	113	79,544
South Kennedy	1,013	25,403	80	11,199	39	9,079	39	15,139	54	37,041
Warrego	468	13,638	59	8,276	20	4,803	25	8,969	34	22,846
Wide Bay	5,433	167,679	475	62,901	100	23,840	64	24,206	42	28,123
Total	40,637	1,263,110	3,998	541,017	1,152	276,873	909	344,940	826	567,691

Pastoral District.	1,000–4,999.		5,000–9,999.		10,000 and Upwards		Total.		Percentage to Grand Total.	
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.
Burke	44	79,490	26	195,510	13	226,074	593	560,429	1·23	9·42
Burnett	53	93,252	3	20,926	..	..	5,325	548,322	11·02	9·21
Cook	50	132,542	10	74,256	11	221,711	2,170	539,277	4·49	9·06
Darling Downs	28	55,558	1	5,000	..	..	8,595	552,113	17·78	9·28
Gregory North	16	40,324	6	43,806	5	74,825	237	178,671	0·49	3·00
Gregory South	13	26,185	5	35,305	3	36,372	109	107,981	0·23	1·82
Leichhardt	150	304,772	20	139,635	2	24,466	2,849	752,003	5·89	12·64
Maranoa	18	32,152	5	32,317	..	..	1,614	179,441	3·34	3·02
Mitchell	12	24,093	..	..	..	..	808	65,083	1·67	1·09
Moreton	14	19,688	..	..	..	..	11,685	533,870	24·17	8·97
North Kennedy	76	171,827	12	79,815	8	150,551	2,658	536,207	5·50	9·01
Port Curtis	91	173,892	6	42,319	2	20,754	3,637	554,509	7·52	9·32
South Kennedy	53	110,851	16	109,489	3	46,505	1,297	364,706	2·68	6·13
Warrego	20	38,822	2	15,975	1	15,359	629	128,688	1·30	2·16
Wide Bay	20	37,383	1	5,140	..	..	6,135	349,272	12·69	5·87
Total	658	1,340,831	113	799,493	48	816,617	48,341	5,950,572	100·00	100·00

Table No. 38.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF HERDS OF CATTLE UNDER VARIOUS GROUPINGS IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1936.

Division.	1–99.		100–199.		200–299.		300–499.		500–999.	
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.
Southern	29,805	979,914	2,990	402,448	768	184,753	512	191,682	382	256,139
Central	5,456	158,138	647	90,252	233	56,292	255	98,234	296	208,007
Northern	5,376	125,058	361	48,317	151	35,828	142	55,024	148	103,545
Total	40,637	1,263,110	3,998	541,017	1,152	276,873	909	344,940	826	567,691

Division.	1,000–4,999.		5,000–9,999.		10,000 and Upwards.		Total.		Percentage to Grand Total.	
	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.	Owners.	Cattle.
Southern	189	352,216	18	123,777	4	51,731	34,668	2,542,660	71·72	42·73
Central	272	543,591	41	279,636	9	120,045	7,209	1,554,195	14·91	26·12
Northern	197	445,024	54	396,080	35	644,841	6,464	1,853,717	13·37	31·15
Total	658	1,340,831	113	799,493	48	816,617	48,341	5,950,572	100·00	100·00

Table No. 39.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS OF SHEEP UNDER VARIOUS GROUPINGS IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE AS AT 31st DECEMBER, 1936.

Pastoral District.	1–49.		50–99.		100–249.		250–499.		500–999.		1,000–1,999.		2,000–4,999.	
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.
Burke	9	102	11	757	10	1,748	13	5,076	15	10,996	26	39,547	138	487,271
Burnett	72	987	7	523	3	386	4	1,316	8	2,286	..	..	..	..
Cook	7	197	4	271	..	..	..	..	..	..	..	..	..	..
Darling Downs ..	225	4,329	89	6,282	144	23,368	216	79,714	300	217,625	307	434,049	280	856,037
Gregory North .	8	122	2	140	4	556	4	1,696	5	3,255	20	31,885	68	255,366
Gregory South ..	1	43	1	65	2	405	1	250	3	2,121	6	8,475	15	47,222
Leichhardt ..	53	1,173	20	1,476	16	2,559	21	7,501	36	26,471	65	91,629	102	317,535
Maranoa	29	595	28	1,955	30	4,859	37	13,756	86	66,198	188	268,273	331	1,052,002
Mitchell	13	192	13	998	20	3,334	8	2,819	23	16,721	59	84,833	232	803,408
Moreton	160	2,610	22	1,485	4	503	2	560	2	1,141	1	1,475	1	2,074
North Kennedy ..	27	455	6	427	3	386	5	1,985	1	520	..	..	..	..
Port Curtis ..	55	1,151	18	1,268	5	757	4	1,655	8	1,919	2	3,200	3	8,700
South Kennedy ..	12	227	5	345	2	379	4	1,321	8	6,474	8	11,940	13	38,997
Warrego	8	100	6	427	9	1,474	7	2,360	8	5,594	29	45,683	202	701,715
Wide Bay ..	79	1,102	9	563	4	637	..	..	..	..	1	1,438	..	..
Total ..	758	13,385	241	16,982	256	41,351	326	120,009	493	361,321	712	1,022,427	1,385	4,570,327

Pastoral District.	5,000–9,999.		10,000–19,999.		20,000–49,999.		50,000–99,999.		100,000 and Upwards.		Total.		Percentage to Grand Total.	
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.
Burke ..	96	636,315	43	578,728	9	266,508	1	57,850	..	..	371	2,084,898	6·94	10·42
Burnett ..	..	..	..	..	..	..	..	..	..	..	89	5,498	1·66	0·03
Cook ..	..	..	..	..	..	..	..	..	..	..	11	468	0·21	0·00
Darling Downs ..	57	379,601	26	344,292	6	174,056	..	..	..	..	1,650	2,519,353	30·85	12·59
Gregory North ..	45	304,937	13	195,377	13	396,344	2	136,091	..	..	184	1,325,769	3·44	6·62
Gregory South ..	14	92,993	7	92,926	4	113,950	1	96,413	..	..	55	454,863	1·03	2·27
Leichhardt	38	242,012	9	107,993	12	362,832	..	..	..	..	372	1,161,181	6·95	5·80
Maranoa ..	145	994,432	44	579,083	20	522,690	..	..	1	142,627	939	3,646,470	17·55	18·22
Mitchell ..	215	1,482,111	86	1,190,513	41	1,271,036	4	284,437	..	..	714	5,140,402	13·35	25·69
Moreton ..	..	..	..	..	..	..	..	..	..	..	192	9,848	3·59	0·05
North Kennedy	..	..	..	..	..	..	..	..	..	..	42	3,773	0·79	0·02
Port Curtis ..	1	9,200	..	..	..	..	..	..	..	..	91	27,850	1·70	0·14
South Kennedy	11	77,190	3	37,400	..	..	1	64,302	..	..	67	238,575	1·25	1·19
Warrego ..	119	794,552	66	868,202	19	603,095	6	365,859	..	..	479	3,389,061	8·95	16·94
Wide Bay ..	..	..	..	..	..	..	..	..	..	..	93	3,740	1·74	0·02
Total ..	741	5,013,343	297	3,994,514	124	3,710,511	15	1,004,952	1	142,627	5,349	20,011,749	100·00	100·00

Table No. 40.

RETURN SHOWING THE NUMBER OF OWNERS AND THE SIZES OF FLOCKS OF SHEEP UNDER VARIOUS GROUPINGS IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE AS AT 31ST DECEMBER, 1936

Division.	1–49.		50–99.		100–249.		250–499.		500–999.		1,000–1,999.		2,000–4,999.	
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.
Southern	598	10,374	168	11,716	200	32,305	275	100,484	415	304,361	546	777,438	843	2,699,441
Central	111	2,163	49	3,626	42	6,723	32	12,164	61	44,736	136	200,048	399	1,365,677
Northern ..	49	848	24	1,640	14	2,323	19	7,361	17	12,224	30	44,941	143	505,209
Total ..	758	13,385	241	16,982	256	41,351	326	120,009	493	361,321	712	1,022,427	1,385	4,570,327

Division.	5,000–9,999.		10,000–19,999.		20,000–49,999.		50,000–99,999.		100,000 and Upwards.		Total.		Percentage to Grand Total.	
	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.	Owners.	Sheep.
Southern ..	340	2,291,673	143	1,884,503	49	1,413,791	7	462,272	1	142,627	3,585	10,130,985	67·02	50·63
Central ..	303	2,071,565	108	1,478,908	66	2,030,212	7	484,830	..	..	1,314	7,700,652	24·57	38·48
Northern ..	98	650,105	46	631,103	9	266,508	1	57,850	..	..	450	2,180,112	8·41	10·89
Total ..	741	5,013,343	297	3,994,514	124	3,710,511	15	1,004,952	1	142,627	5,349	20,011,749	100·00	100·00

Table No. 41.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS, IN THE SOUTHERN, CENTRAL, AND NORTHERN DIVISIONS OF THE STATE.

At 31st December.	Southern.				Central.				Northern.			
	Horses.	Cattle.	Sheep.	Pigs.	Horses.	Cattle.	Sheep.	Pigs.	Horses.	Cattle.	Sheep.	Pigs.
1927	258,952	2,322,633	8,118,128	166,178	114,805	1,149,911	5,928,454	10,155	174,576	1,753,260	2,595,803	15,614
1928	253,377	2,299,516	9,224,903	187,582	109,510	1,115,865	6,886,846	10,852	159,603	1,712,960	2,397,452	17,330
1929	244,604	2,332,195	9,520,339	204,291	104,807	1,184,999	7,943,392	11,571	150,693	1,691,394	2,860,572	20,175
1930	235,769	2,408,854	9,957,562	189,248	101,806	1,290,133	9,353,534	9,270	144,040	1,764,787	3,230,947	19,010
1931	233,390	2,524,266	10,160,434	199,717	103,419	1,310,131	9,072,850	8,095	132,665	1,716,002	3,090,994	14,874
1932	225,662	2,536,342	10,274,672	193,652	100,097	1,319,371	8,753,213	7,177	126,727	1,679,352	2,284,980	12,420
1933	223,465	2,610,345	9,504,715	195,853	99,099	1,406,193	7,787,203	7,843	127,460	1,764,632	2,780,886	13,752
1934	225,244	2,749,310	10,407,190	244,848	95,953	1,521,144	8,465,324	9,453	124,407	1,782,187	2,701,668	15,572
1935	223,671	2,765,225	9,812,659	277,471	94,963	1,524,691	6,504,151	10,387	123,279	1,743,088	1,743,283	17,030
1936	222,077	2,542,660	10,130,985	261,469	95,186	1,554,195	7,700,652	12,009	124,273	1,853,717	2,180,112	17,377

Table No. 42.

RETURN FOR TEN YEARS SHOWING THE NUMBER OF CATTLE, SHEEP, ETC., SLAUGHTERED AT FACTORIES, SLAUGHTER-HOUSES, AND ON HOLDINGS, FOR CONSUMPTION AS FOOD IN THE STATE, TOGETHER WITH THE AVERAGE DRESSED WEIGHT OF EACH ANIMAL AND THE ESTIMATED QUANTITY CONSUMED PER CAPITA.

Year.	Mean Population for the Year. ¶	* Number Slaughtered.					Average Dressed Weight.					‡ Consumption per Capita.					
		Cattle.	Sheep.	Calves.	Lambs.	Pigs.	Cattle.	Sheep.	Calves.	Lambs.	Pigs.	Beef.	Mutton.	Veal.	Lamb.	Pork.	Total.
							lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1927	870,643	316,661	641,636	43,122	24,329	68,580	572	42	83	30	83	208·01	30·95	4·11	0·84	6·54	250·45
1928	884,815	307,791	725,375	45,793	19,570	73,917	540	42	76	30	83	187·81	34·43	3·93	0·66	6·93	233·76
1929	897,569	287,023	858,563	43,527	26,403	83,526	539	43	47	31	89	172·33	41·12	2·28	0·91	8·28	224·92
1930	910,319	260,522	1,110,997	46,286	31,058	79,407	525	41	52	30	87	150·45	50·42	2·65	1·03	7·60	212·15
1931	924,825	255,213	1,210,090	47,662	38,509	96,616	532	42	52	30	84	146·65	54·68	2·70	1·25	8·82	214·10
1932	935,575	271,809	1,186,476	54,598	62,542	95,631	522	42	60	30	84	151·49	53·57	3·53	1·98	8·59	219·16
1933	945,454	§302,669	§1,170,363	§76,086	§55,193	§342,357	531	41	61	28	83	169·79	50·76	4·92	1·64	30·05	257·16
1934	955,584	326,334	983,326	69,907	40,176	369,704	528	41	63	29	83	180·18	42·43	4·80	1·23	32·38	261·02
1935	966,198	350,928	852,897	77,523	34,779	402,700	516	41	62	31	83	187·42	36·21	4·97	1·11	34·53	264·24
1936	978,589	362,565	844,155	94,891	31,550	424,572	522	43	58	30	81	193·45	36·75	5·61	0·98	35·22	272·01

* Includes slaughterings on Farms and Stations, of which, in 1936, there were 30,465 Cattle, 236,897 Sheep, and 8,504 Pigs.

‡ Figures revised on adjusted census populations.

¶ Adjusted census populations.

§ Includes, for the first time, animals slaughtered for home consumption in meatworks.

Table No. 43.

RETURN FOR TEN YEARS OF LIVE STOCK SLAUGHTERED AT MEATWORKS AND BACON FACTORIES IN THE STATE FOR PRESERVATION AS FOOD, FOR FREEZING, OR FOR TALLOW, WITH THE QUANTITY AND VALUE OF MEAT, TALLOW, LARD, ETC., PRODUCED.

Year.	Number of Establishments.	Average Number of Workers Employed.	Number Slaughtered.								Meat Produced.										Extract and Essence of Meat Produced.	Quantity of Tallow Produced.	Quantity of Lard Produced.	Total Value of all Products shown here.
			Cattle.			Sheep.			Lambs.	Pigs.	Beef.			Mutton.			Lamb.		Bacon and Ham. (f)	Pork (f)				
			For Freezing, Local Consumption, &c.	For Preserving.	For Boiling Down.	For Freezing, Local Consumption, &c.	For Preserving.	For Boiling Down.			Frozen and Local Consumption.	Preserved.	Salted.	Frozen and Local Consumption	Preserved.	Salted.	Frozen and Local Consumption.	Preserved.						
	(a)	(b)									Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Tons.	Lb.	£
1926-27	20	1,614	179,694	14,043	938	2,942	...	...	...	208,916	100,744,934	9,859,202	27,662	121,956	.	...	...	...	17,971,692	674,137	60,516	3,042	767 376	2 320,059
1927-28	19	2,798	364,860	14,919	433	3,777	...	...	..	241,871	215 856 923	9,053,287	70,263	161 757	..	..	...	...	17,986,523	649 078	77,764	5,302	839 959	3,847,224
1928-29	18	2,490	316,077	14,322	1,213	58,936	...	64	1,516	307,371	194,444,901	9,293 369	345 125	2,623 254	..	1,688	46,859	...	21,710 900	1,289 112	84,283	6,455	1,112,954	4,179,275
1929-30	17	2,4 7	287,239	14,803	1,169	179,550	7,060	133	18,269	283,065	174,004,657	7,752,595	25,897	7,558 955	262,169		535 898	...	18,924 049	2,235 411	78,843	3,682	989,890	4,903 892
1930-31	17	2,391	328,790	11,676	1,199	486,463	828	465	41,434	328 649	199,829,633	5,810,442	380,549	20,746 284	29 695	18,687	1,289,984	.	19,842 633	7,274,913	65 894	4,158	993 936	3,828,161
1931-32	16	1,805	227,204	9,051	1,519	466,292	7,922	4,588	34,573	311,599	132,573 771	3,654,234	3,000	20 563 645	299 958	...	1 110 969	...	19,639,692	5,161,284	81,743	3,457	1,083,818	2,438 287
1932-33	16	2,125	371,114	10,625	1,465	707,088	4,040	325	121 616	316,727	188,728,987	4,303 516	13,404	29 366 445	162 658	...	3,636 277	..	16,701 874	7,027 620	31,459	2,444	893,216	3,162,820
1933-34	17	2,222	489,548	2,482	3,125	539,843	500	667	53,714	343,727	239 961,131	988,773	21,449	21 720 273	13 080	...	1,507,122	.	18 573 812	8,795,106	40,744	4,638	1 174,738	3,358 359
1934-35	18	2,349	592,886	4,682	9,997	583,524	1,090	2,238	71,750	426,141	253,559 544	1,884,791	52,133	23,835 251	26,425	...	2,084 877	...	21 474 749	12 108 774	52,184	5,232	1 262 876	4,167,544
1935-36	18	2,738	567,895	25,779c	9,888	361,473	...	1,275	46,998	492,416	217,329,922	12,528,405d	(e)	13,884,043	(e)	(e)	1,429,753	(e)	23,017,074	13,604,567	43,214	4,398	1 303,513	4,274,354

(a) Not including 2 Rabbit-freezing Works. (b) Average over whole year. (c) Killed for small goods purposes. (d) Canned meat. (e) Not available, included elsewhere. (f) Not including farmers' bacon and pork.

N.B.—5,606 pigs killed by farmers and 420,859 lb. of pork, valued at £10,520, and 181,272 lb. of bacon and ham, valued at £7,850, made therefrom during 1935-36, are not included in this table.

Table No. 44.

RETURN FOR TEN YEARS SHOWING THE QUANTITY AND VALUE OF OTHER PRODUCTS OF MEATWORKS AND BACON FACTORIES IN THE STATE.

Year.	No.	Hides.		Skins.		Edible Fats.		Bones.		Hoofs and Horns.	Hair.		Oils, &c.		Manure.		All Other Products.	Total Value.
		Number.	£	Number.	£	Lb.	£	Tons.	£	£	Lb.	£	Gallons.	£	Tons.	£	£	£
1926–27 ..	20	194,641	260,470	2,942	1,189	5,926,129	113,821	223	2,122	7,929	129,149	2,927	14,797	3,424	4,761	43,963	424,203	860,048
1927–28 ..	19	369,927	718,253	4,048	1,849	9,070,227	197,418	348	3,379	9,397	159,603	4,602	19,899	4,735	5,626	54,959	579,453	1,574,045
1928–29 ..	18	329,162	463,693	63,146	22,857	10,574,003	231,239	306	3,324	11,211	101,132	4,033	18,584	5,242	4,831	49,046	552,685	1,343,330
1929–30 ..	17	298,455	298,953	209,757	35,619	10,862,045	203,281	194	2,156	8,466	56,523	2,395	15,832	3,142	4,006	45,096	488,046	1,087,154
1930–31 ..	17	338,653	325,698	532,484	73,520	13,031,746	182,898	316	3,541	10,239	46,460	2,773	18,125	3,817	4,935	48,653	411,852	1,062,991
1931–32 ..	16	233,985	189,009	456,858	87,305	8,771,038	99,432	159	1,834	4,546	23,170	1,172	11,902	2,363	3,616	29,821	365,949	781,431
1932–33 ..	16	329,482	286,139	881,262	165,083	11,436,961	118,513	143	1,470	7,238	30,340	1,394	13,487	2,618	3,634	29,764	256,405	868,624
1933–34 ..	17	324,729	314,594	373,831	93,275	15,908,027	175,014	324	3,388	9,512	44,383	2,085	24,013	4,840	5,742	45,945	388,639	1,037,292
1934–35 ..	18	411,850	367,367	849,920	158,834	18,648,859	216,797	508	5,018	10,901	61,138	2,252	22,041	4,381	8,243	57,222	444,207	1,266,979
1935–36 ..	18	(a) 603,219	439,687	410,140	116,881	16,001,467	212,580	1,114	5,150	9,237	92,135	3,639	20,466	3,851	7,188	51,802	415,568	1,258,395

(a) Including calf skins.

Table No. 45.

RETURN SHOWING THE PURE BREEDS OF CATTLE RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1936.

Petty Sessions District.	Aberdeen Angus.	Ayrshire.	Devon.	Friesian.	Guernsey.	Hereford.	Jersey.	Milking Shorthorn and Aust. Illawarra Shorthorn.	Polled Hereford.	Red Polled.	Shorthorn.	Crossed and Unspecified.	Total.
Adavale	..	..	..	..	..	..	1	..	..	..	7,231	1,591	8,823
Allora	..	..	..	..	2	124	27	255	..	..	248	12,721	13,377
Alpha	..	..	..	..	..	..	..	11	..	11	15,768	35,257	51,047
Aramac	101	10	..	..	..	10	22	103	..	..	71	3,775	4,092
Atherton	1	..	4	60	32	..	2,129	6,105	..	..	536	36,471	45,338
Augathella	..	..	..	6	..	104	..	3	7	..	2,050	29,040	31,210
Ayr	..	25	..	..	..	..	84	144	..	594	1,503	34,300	36,650
Banana	..	..	..	3	..	16,012	156	335	..	..	561	41,990	59,057
Barcaldine	..	..	..	..	..	..	9	95	..	167	796	2,854	3,921
Beaudesert	51	48	35	..	18	420	1,065	1,535	..	..	208	67,123	70,503
Biggenden	..	65	..	8	4	3	1,012	1,416	3	4	33	39,840	42,388
Blackall	20	124	..	..	..	455	68	76	..	..	1,580	4,809	7,132
Bollon	..	..	..	..	..	76	34	..	..	..	2,604	6,155	8,869
Boulia	..	..	..	..	..	..	..	..	..	..	34,784	13,548	48,332
Bowen	13	5	..	..	..	9	20	80	..	10	8	27,966	28,111
Brisbane	..	153	..	86	..	..	852	410	..	..	16	20,951	22,468
Bundaberg	1	106	..	2	..	1,667	525	633	..	1	151	58,650	61,736
Burke	7	..	..	..	..	..	..	..	..	..	23,240	51,348	74,595
Caboolture	3	..	..	..	..	..	211	42	..	..	1	9,342	9,599
Cairns	..	..	..	..	..	..	95	46	..	..	113	5,341	5,595
Camooweal	..	..	..	..	..	..	..	..	..	..	31,775	39,212	70,987
Cape River	1	..	..	..	..	1,600	71	1	..	..	9,111	85,103	95,887
Cardwell	..	..	..	..	..	..	11	138	..	47	..	7,859	8,055
Charleville	2	..	..	52	..	610	159	38	..	26	2,576	17,096	20,559
Charters Towers	18	..	307	..	..	300	304	113	..	..	5,551	187,664	194,257
Childers	..	..	..	..	..	881	130	458	..	..	85	13,380	14,934
Chillagoe	..	..	..	..	..	..	..	..	..	..	..	30,195	30,195
Chinchilla	22	2	..	70	..	1,637	34	1,609	..	23	376	55,211	58,984
Clermont	143	..	25	..	..	..	106	2	..	2	*78,645	58,204	137,127
Cleveland	..	..	..	..	..	..	43	28	..	..	..	1,206	1,277
Clifton	7	..	..	16	14	28	184	385	..	..	177	18,875	19,686
Cloncurry	..	..	..	..	..	17	16	..	..	7,413	91,507	105,216	204,169
Coen	..	4	..	..	..	..	..	..	..	..	..	31,933	31,937
Collinsville	..	1	..	..	..	20	..	7	..	..	22,078	128,247	150,353
Condamine	113	8	3	..	..	1,809	49	296	..	8	1,430	67,460	71,176
Cook	10	..	..	..	..	115	..	..	..	..	9,277	74,772	84,174
Crow's Nest	..	..	..	..	..	..	627	289	..	..	225	24,970	26,111
Croydon..	..	..	..	..	..	..	..	..	..	..	..	24,774	24,774
Cunnamulla	136	..	1	..	..	679	12	..	..	..	6,386	11,334	18,548
Dalby	111	39	..	148	4	6,438	992	1,203	..	96	2,217	119,659	130,907
Diamantina	..	..	..	..	..	..	..	..	..	..	1,667	35,223	36,890
Dirranbandi	630	..	..	..	..	..	7	20	..	..	1,148	9,143	10,948
Douglas	..	..	..	1	..	..	71	..	..	..	118	3,835	4,025
Dugandan	..	..	..	96	..	591	878	821	..	..	175	36,616	39,177

* Including 360 Polled Shorthorn.

Table No. 45.—*continued.*

RETURN SHOWING THE PURE BREEDS OF CATTLE RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1936—*continued.*

Petty Sessions District.	Aberdeen Angus.	Ayrshire.	Devon.	Friesian.	Guernsey.	Hereford.	Jersey.	Milking Shorthorn and Aust. Illawarra Shorthorn.	Polled Hereford.	Red Polled.	Shorthorn.	Crossed and Unspecified.	Total.
Eidsvold	88	..	..	1	..	10,064	80	553	..	..	1	49,087	59,874
Emerald	..	..	..	..	..	4,401	12	25	..	1	1,419	49,910	55,768
Esk	2	..	..	2	..	452	83	203	14	..	..	27,220	27,976
Etheridge	..	..	..	..	..	1,672	..	..	..	..	120	194,145	195,937
Eulo	..	..	..	..	..	88	..	..	..	..	1,852	4,420	6,360
Gatton	1	8	..	..	..	3	278	294	..	..	16	23,414	24,014
Gayndah	520	1	..	12	1	12,151	713	3,186	21	154	1,193	107,771	125,723
Gin Gin	2	1	..	..	..	8,285	117	20	201	..	..	48,893	57,519
Gladstone	392	31	..	218	..	17,019	1,030	2,681	242	51	3,108	130,362	155,134
Goondiwindi	124	..	..	..	..	7,880	21	42	..	..	4,532	34,510	47,109
Gympie	..	176	..	113	90	830	3,244	4,284	..	..	1,532	112,388	122,657
Harrisville	..	..	..	1	..	2	73	717	..	3	..	18,503	19,299
Herberton	8	..	164	..	..	..	391	105	..	..	11,900	61,807	74,375
Hughenden	22	..	..	..	..	474	58	1	..	..	8,738	45,066	54,359
Hungerford	..	..	..	..	..	4	4	..	..	..	53	6,258	6,319
Ingham	..	..	..	..	..	..	38	73	..	5	88	33,188	33,392
Inglewood	449	..	..	..	1	1,127	26	214	..	..	2,201	17,211	21,229
Innisfail	..	..	..	..	..	..	66	54	..	..	10	5,148	5,278
Ipswich	..	..	..	20	..	..	696	153	..	..	..	13,202	14,071
Isisford	..	..	..	..	..	..	39	3	..	24	245	4,114	4,425
Julia Creek	..	..	..	..	..	..	45	..	..	40	1,108	44,393	45,586
Jundah	..	..	..	..	..	..	..	..	..	..	6,957	13,271	20,228
Kilcoy	..	..	..	3	..	..	260	277	..	..	2	16,373	16,915
Kilkivan	..	3	4	..	..	527	331	394	2	..	106	19,076	20,443
Killarney	..	..	783	..	..	119	249	343	..	..	..	9,552	11,046
Laidley	..	..	..	1	..	1	361	493	..	..	36	14,509	15,401
Logan	..	158	..	..	..	..	301	255	..	..	3	13,833	14,550
Longreach	..	..	..	..	..	..	39	84	..	22	4,381	6,358	10,884
Lowood	..	..	..	..	..	1,050	2	3	..	..	..	13,303	14,358
Mackay	412	27	..	15	..	2,815	602	661	4	4	705	153,781	159,026
Marburg	..	..	..	16	..	..	21	192	..	..	..	6,816	7,045
Mareeba	..	..	..	30	..	..	167	157	..	..	26	21,066	21,446
Maroochy	..	201	..	2	294	3	2,228	2,529	..	..	95	44,855	50,207
Maryborough	..	23	..	8	..	442	281	371	..	..	269	22,568	23,962
Mitchell	27	..	..	52	..	2,122	22	13	1	..	2,739	66,222	71,198
Monto	25	..	..	10	..	3,850	751	2,094	150	1	76	62,783	69,740
Mount Isa	90	..	..	9	..	..	8	10	..	..	90	1,615	1,822
Mount Morgan	..	..	..	85	..	5,276	986	1,378	98	1,202	293	102,639	111,957
Mount Perry	..	16	..	..	..	1	1	26	..	..	..	35,047	35,091
Muttaburra	84	..	..	44	..	..	9	61	..	30	2,446	3,777	6,451

Table No. 45.—*continued.*

RETURN SHOWING THE PURE BREEDS OF CATTLE RETURNED IN THE SEVERAL PETTY SESSIONS DISTRICTS OF THE STATE AS AT 31ST DECEMBER, 1936—*continued.*

Petty Sessions District.	Aberdeen Angus.	Ayrshire.	Devon.	Friesian.	Guernsey.	Hereford.	Jersey.	Milking Shorthorn and Aust. Illawarra Shorthorn.	Polled Hereford.	Red Polled.	Shorthorn.	Crossed and Unspecified.	Total.
Nanango	627	26	..	55	72	2,278	1,428	4,010	2	330	1,975	97,499	108,302
Norman	..	..	..	..	..	14,051	7	..	..	..	20,240	167,615	201,913
Oakey	636	325	..	124	49	1,400	1,511	843	170	83	270	74,267	79,678
Pittsworth	8	363	..	110	..	754	64	639	..	50	320	41,764	44,072
Proserpine	75	..	..	..	..	40	145	94	..	..	..	13,516	13,870
Quilpie	..	..	..	..	..	..	..	5	..	..	5,181	24,214	29,400
Ravenswood	..	..	..	..	..	..	1	..	..	6	..	18,398	18,405
Redcliffe	..	105	..	78	11	..	85	27	..	..	..	17,417	17,723
Richmond	1	..	..	..	..	9,340	180	56	..	472	12,612	32,000	54,661
Rockhampton	65	96	2,500	2	..	†31,537	1,526	1,439	434	201	2,869	345,339	386,008
Roma	611	1	..	..	..	2,317	273	449	82	5	13,014	68,739	85,491
Rosewood	..	..	..	..	11	..	310	284	1	6	7	19,241	19,860
St. George	..	..	..	..	..	135	9	16	..	..	2,755	5,420	8,335
St. Lawrence	422	..	..	..	..	7,120	..	..	16	15	2,966	133,396	143,935
Somerset	1	..	..	..	..	..	..	..	..	..	..	1,172	1,173
Southport	..	9	..	10	64	..	635	999	..	..	25	36,522	38,264
Springsure	22	..	..	..	..	9,997	6	2	..	1	5,087	81,802	96,917
Stanthorpe	637	..	1	..	..	162	111	1	..	10	20	7,915	8,857
Surat	..	..	..	..	..	81	88	10	..	4	3,575	9,148	12,906
Tambo	..	..	..	..	..	..	6	23	..	..	11,409	6,550	17,988
Taroom	..	..	2	..	..	13,172	..	2	..	..	7,686	61,542	82,404
Texas	..	..	..	..	1	964	174	33	..	5	1,539	7,780	10,496
Thargomindah	..	..	..	..	..	150	..	..	..	..	5,112	53,261	58,523
Tiaro	151	26	..	..	..	2,281	513	1,589	..	1	2	46,949	51,512
Toogoolawah	2,182	..	..	171	..	1,600	302	702	3	..	185	43,388	48,533
Toowoomba	..	60	..	156	47	1	978	1,260	..	12	504	36,114	39,132
Townsville	2	..	..	..	..	..	43	324	..	90	1,007	25,093	26,559
Warwick	489	4	..	56	23	629	406	618	..	229	‡777	38,379	41,610
Wienholt	825	53	..	242	..	9,301	1,265	3,767	1	558	67	117,346	133,425
Windorah	..	..	..	..	..	5	..	..	..	..	3,987	46,093	50,085
Winton	1	..	..	..	..	..	53	5	..	..	18,330	15,228	33,617
Woodford	189	..	..	..	1	3	348	524	..	..	..	16,105	17,170
Wynnum	..	..	..	..	..	..	33	69	..	..	..	1,649	1,751
Yeulba	100	..	..	..	..	1,029	1	..	..	..	..	10,713	11,843
Total	10,680	2,303	3,829	2,194	739	†222,610	34,138	56,436	1,452	12,017	§533,887	5,070,287	5,950,572

† Including 30 Zebu.

‡ Including 2 Polled Shorthorn.

§ Including 362 Polled Shorthorn.

Table No. 46.

RETURN SHOWING DETAILS OF SHEEP SHORN AND WOOL PRODUCED IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1936.

Pastoral District.	Classification of Sheep Shorn.						Result of Clip.				All Wool Expressed as *Greasy.
	Ewes.	Wethers.	Weaners and Hoggets.	Lambs.	Rams.	Total.	Greasy Wool.		Scoured Wool.		
							Bales.	Lb.	Bales.	Lb.	Lb.
Burke	974,210	531,641	84,680	95,010	28,559	1,714,100	24,087	8,040,017	8,069	1,750,327	11,832,392
Burnett	3,728	824	294	326	45	5,217	98	26,918	..	..	26,918
Cook	56	..	..	..	1	57	1	296	..	..	296
Darling Downs	935,429	1,398,365	248,125	77,128	15,063	2,674,110	61,433	18,285,181	17	3,296	18,292,322
Gregory North	639,450	331,750	64,250	50,875	18,900	1,105,225	15,780	5,383,007	7,618	1,614,574	8,881,251
Gregory South	244,194	57,718	57,317	26,835	6,687	392,751	8,533	2,895,671	375	79,345	3,067,585
Leichhardt	477,334	575,760	105,416	77,563	10,505	1,246,578	25,981	8,280,680	74	15,791	8,314,894
Maranoa	1,830,711	1,303,928	373,397	227,644	42,599	3,778,279	87,923	27,303,071	459	86,517	27,490,524
Mitchell	2,625,446	1,148,895	262,382	277,044	79,634	4,393,401	83,959	27,906,371	11,888	2,500,074	33,323,198
Moreton	3,972	1,835	372	231	73	6,483	136	39,723	..	..	39,723
North Kennedy	1,238	1,373	141	86	22	2,860	57	14,697	7	1,504	17,956
Port Curtis	10,523	8,557	4,576	2,508	316	26,480	537	157,248	..	..	157,248
South Kennedy	131,664	124,908	15,998	31,354	3,987	307,911	5,949	1,964,164	243	52,872	2,078,720
Warrego	1,748,949	731,279	390,423	187,862	49,576	3,108,089	68,648	22,474,451	2,048	406,560	23,355,331
Wide Bay	1,001	1,746	48	61	20	2,876	15	5,049	24	4,721	15,278
Total	9,627,905	6,218,579	1,607,419	1,054,527	255,987	18,764,417	383,137	122,776,544	30,822	6,515,581	136,893,636
Quantity of wool returned as greasy by growers but subsequently scoured							26,061	8,351,495	18,234	3,854,536	
Total remaining greasy							357,076	114,425,049			
Total scoured							..	..	49,056	10,370,117	
Quantity of wool fellmongered							..	..	8,268	1,747,656	3,786,588
Grand total scoured and fellmongered							..	..	57,324	12,117,773	
Estimated quantity of wool on skins other than fellmongered							..	..	..	..	1,658,855
Quantity of dead wool returned by owners excluded from clip							..	..	..	..	454,249
Grand total all wool produced expressed as greasy							..	..	..	..	142,793,328
Estimated value of total wool produced							..	..	†£8,287,963		

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* Scoured wool has been converted into its greasy equivalent on the basis of 2⅛ lb. greasy being required to produce 1 lb. scoured wool.

† Based on average price realised at Brisbane wool sales for the 1935-36 clip.

Table No. 47.

RETURN SHOWING THE AVERAGE WEIGHT PER FLEECE IN THE PASTORAL DISTRICTS OF THE STATE FOR TEN YEARS.

Pastoral District.	Average Weight of Clip per Sheep in Greasy Wool.									
	1926-7.	1927-8.	1928-9.	1929-30.	1930-1.	1931-2.	1932-3.	1933-4.	1934-5.	1935-6.	Increase or Decrease 1935-36 on 1934-35.
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb	Lb.	Lb.
Burke	5·48	6·76	6·56	6·99	6·84	7·19	7·27	7·49	6·50	6·90	·40
Burnett	6·07	5·04	5·32	5·62	6·10	5·88	6·56	5·90	5·26	5·16	— ·10
Cook	4·15	4·76	4·21	5·01	5·84	5·22	6·24	5·62	4·18	5·19	1·01
Darling Downs ..	7·08	7·39	7·41	7·26	7·58	7·59	7·19	7·21	7·13	6·84	— ·29
Gregory North ..	5·72	7·05	6·60	7·91	7·82	7·70	8·39	8·34	7·52	8·04	·52
Gregory South ..	7·83	7·07	7·60	7·79	8·27	7·97	7·94	8·00	7·83	7·81	— ·02
Leichhardt	5·39	6·65	6·51	6·64	6·69	6·27	7·09	6·86	6·75	6·67	— ·08
Maranoa	7·96	7·57	7·63	7·89	7·75	7·94	7·68	7·61	7·73	7·28	— ·45
Mitchell	5·88	7·38	7·59	7·79	8·04	7·38	7·92	8·06	7·33	7·58	·25
Moreton	6·55	5·88	6·42	6·72	6·25	6·90	6·67	5·26	6·46	6·13	— ·33
North Kennedy ..	5·88	6·15	5·60	5·63	4·54	5·66	6·44	6·02	5·37	6·28	·91
Port Curtis	5·63	5·16	5·25	5·14	5·20	6·20	5·95	5·60	5·93	5·94	·01
South Kennedy ..	5·77	7·20	6·69	6·66	6·59	6·04	7·43	7·36	7·04	6·75	— ·29
Warrego	7·51	7·32	7·63	7·63	8·08	8·38	8·07	7·92	8·01	7·51	— ·50
Wide Bay	5·28	5·13	5·32	6·23	5·54	5·74	7·03	5·87	5·52	5·31	— ·21
State	6·60	7·24	7·31	7·52	7·67	7·60	7·75	7·74	7·36	7·30	— ·06

Table No. 48.

RETURN SHOWING DEAD WOOL AND SKINS OBTAINED ON SHEEP HOLDINGS, VALUE OF MACHINERY THEREON, AND AVERAGE WEIGHT OF GREASY AND SCOURED BALES IN THE VARIOUS PASTORAL DISTRICTS OF THE STATE DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1936.

Pastoral District.	Dead Wool and Skins Sold or Utilised by Wool Growers.		Machinery on Sheep Holdings.	Average Weight per Bale of Wool Clip.	
	Dead Wool.	Sheep Skins.	Value.	Greasy.	Scoured.
	Lb.	No.	£	Lb.	Lb.
Burke	75,800	20,813	288,468	334	217
Burnett	25	118	288	275	..
Cook	..	2	40	296	..
Darling Downs	198,102	38,986	443,536	298	194
Gregory North	38,738	11,458	388,332	341	212
Gregory South	767	5,945	85,514	339	212
Leichhardt	5,122	7,312	219,440	319	213
Maranoa	25,890	32,179	357,458	311	188
Mitchell	70,549	43,815	799,443	332	210
Moreton	268	393	1,274	292	..
North Kennedy	..	32	541	258	215
Port Curtis	..	231	5,061	293	..
South Kennedy	1,001	1,792	57,037	330	218
Warrego	37,987	30,387	413,928	327	199
Wide Bay	..	132	88	337	197
Total	454,249	193,595	3,060,448	320	211

Table No. 49.

RETURN SHOWING THE TOTAL NUMBER OF SHEEP SHORN AND THE RESULT OF THE CLIP IN EACH OF THE THREE DIVISIONS OF THE STATE FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1936.

Division.	Total Number of Sheep Shorn.	Result of the Clip.				Total Clip.		Average per Fleece in Grease.
		Greasy.		Scoured.		Expressed as Greasy.	Percentage to Total.	
		Bales.	Lb.	Bales.	Lb.	Lb.		Lb.
Southern	10,060,218	228,937	71,647,752	2,926	580,987	72,906,556	53·26	7·25
Central	6,898,670	128,161	42,427,062	19,818	4,182,445	51,489,027	37·61	7·46
Northern	1,805,529	26,039	8,701,730	8,078	1,752,149	12,498,053	9·13	6·92
Total ..	18,764,417	383,137	122,776,544	30,822	6,515,581	136,893,636	100·00	7·30

Table No. 50.

RETURN FOR TEN YEARS SHOWING THE PROPORTION OF THE CLIP IN EACH OF THE THREE DIVISIONS TO THE TOTAL CLIP OF THE STATE.

Division.	1926-7.	1927-8.	1928-9.	1929-30.	1930-1.	1931-2.	1932-3.	1933-4.	1934-5.	1935-6.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Southern	55·20	50·08	50·60	46·89	44·71	47·04	46·56	45·73	47·85	53·26
Central	33·58	36·47	37·23	40·28	42·37	38·87	42·60	40·83	40·33	37·61
Northern	11·22	13·45	12·17	12·83	12·92	14·09	10·84	13·44	11·82	9·13

Table No. 51.

RETURN SHOWING THE BREEDS OF SHEEP IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE ON 31ST DECEMBER, 1935; ALSO THE NUMBER OF SHEEP UNDER ONE YEAR, AND ONE YEAR AND OVER, ON THAT DATE.

Pastoral District.	BREEDS.				Total Sheep on 31st Dec., 1935.	AGES.		
	Merino.	Pure Breeds other than Merino.	Merino Comeback.	*Crossbreeds and Unspecified.		Under One Year.	One Year and Over.	* Unspecified.
Burke	1,652,857	..	..	..	1,652,857	107,814	1,545,043	..
Burnett	1,683	a 251	1,744	2,364	6,042	797	4,498	747
Cook	57	b 2	..	302	361	46	96	219
Darling Downs	2,420,516	c 4,538	78,912	58,805	2,557,271	210,447	2,339,754	7,070
Gregory North	1,028,586	d 7,500	..	88	1,036,174	73,333	960,826	2,015
Gregory South	397,975	..	..	..	397,975	74,938	323,037	..
Leichhardt	1,130,296	..	5,938	4,584	1,140,818	125,526	1,014,091	1,201
Maranoa	3,733,526	e 457	2,676	1,796	3,738,455	429,718	3,304,557	4,180
Mitchell	4,178,673	..	..	422	4,179,095	372,062	3,802,719	4,314
Moreton	5,260	f 413	994	4,419	11,086	1,340	7,540	2,206
North Kennedy	1,308	g 30	420	2,291	4,049	517	3,088	444
Port Curtis	9,866	e 11,536	3,309	4,020	28,731	5,156	22,550	1,025
South Kennedy	294,518	..	94	1,356	295,968	24,258	271,342	368
Warrego	3,006,984	..	..	..	3,006,984	379,419	2,627,565	..
Wide Bay	1,841	h 30	51	2,305	4,227	344	2,877	1,006
Totals	17,863,946	j 24,757	89,138	82,252	18,060,093	1,805,715	16,229,583	24,795
Percentage to Total Sheep ..	98·91	0·14	0·49	0·46	100·00	10·00	89·86	0·14

* Mainly butchers' and ration sheep.

a Border Leicester, 26; Corriedale, 220; Romney Marsh, 5. *b* Dorset Horn, 1; Romney Marsh, 1. *c* Border Leicester, 526; Corriedale, 3,580; Dorset Horn, 115; Leicester, 40; Lincoln, 15; Romney Marsh, 132; Southdown, 127; Shropshire, 3. *d* Polwarth. *e* Corriedale. *f* Border Leicester, 2; Corriedale, 8; Dorset Horn, 1; Romney Marsh, 401; Shropshire, 1. *g* Romney Marsh. *h* Border Leicester, 2; Romney Marsh, 28. *j* Border Leicester, 556; Corriedale, 15,801; Dorset Horn, 117; Leicester, 40. Lincoln, 15; Polworth, 7,500; Romney Marsh, 597; Southdown, 127; Shropshire, 4.

NOTE.—Particulars for 1936 not yet available.

Table No. 52.

RETURN SHOWING THE RESULTS OF LAMBING, LOSSES, SHEEP KILLED FOR FOOD ON HOLDINGS, ETC., IN THE SEVERAL PASTORAL DISTRICTS OF THE STATE DURING THE YEAR 1935.

Pastoral District.	Total Sheep as per Stock Returns on 1st Jan., 1935.	Ewes Mated with Rams.	Lambs Marked.	Percentage of Lambing.	Purchases and Transfers.	Sales and Transfers.	Total *Losses.	Killed for Food on Holding.	Total Sheep as per Stock Returns on 31st Dec., 1935.	†Skins Obtained
Burke	2,595,492	889,579	143,786	16·16	390,365	419,841	1,034,872	22,073	1,652,857	15,010
Burnett	4,398	1,378	825	59·87	4,209	1,878	1,321	191	6,042	60
Cook	302	65	48	73·85	219	174	34	..	361	..
Darling Downs ..	2,619,978	594,372	237,192	39·91	1,094,991	815,575	543,677	35,638	2,557,271	28,578
Gregory North ..	1,672,909	554,395	79,909	14·41	194,499	325,220	571,219	14,704	1,036,174	13,497
Gregory South ..	484,814	222,741	82,608	37·09	39,924	83,966	119,332	6,073	397,975	3,667
Leichhardt	1,077,362	311,446	118,209	37·95	291,386	194,806	139,006	12,327	1,140,818	6,897
Maranoa	3,818,971	1,229,657	516,309	41·99	856,368	952,748	447,733	52,712	3,738,455	28,089
Mitchell	5,611,084	1,696,546	466,968	27·52	701,228	1,378,255	1,158,423	63,507	4,179,095	46,274
Moreton	7,829	2,388	1,570	65·75	9,174	5,384	1,637	466	11,086	467
North Kennedy ..	5,586	1,352	710	52·51	743	2,382	526	82	4,049	16
Port Curtis ..	25,409	9,796	5,194	53·02	3,055	1,463	3,016	448	28,731	201
South Kennedy ..	257,246	68,953	29,926	43·40	78,841	30,500	37,123	2,422	295,968	1,001
Warrego	3,388,753	1,260,238	432,283	34·30	571,142	912,572	428,645	43,977	3,006,984	28,630
Wide Bay	4,049	565	346	61·24	2,961	1,500	1,442	187	4,227	196
Totals ..	21,574,182	6,843,471	2,115,883	30·92	4,239,105	5,126,264	4,488,006	254,807	18,060,093	172,583

* For details see Table No. 53. † Year ended 30th June.

NOTE—Particulars for 1936 not yet available.

Table No. 53.

RETURN SHOWING DETAILS OF LOSSES IN SHEEP DURING THE YEAR 1935.

Pastoral District.	* Losses and the Causes thereof as Returned by Owners, and the Percentage of each Cause to Total Losses in each District.																						
	Cancer. (Senile Necrosis)		Dingoes.		Drought.		Flood.		Fly.		Lambing.		Old Age.		Shearing.		Worms.		†Other.		Total Losses.	Losses as Percentage of Total Sheep 1–1–35	Percentage of Total Losses in each Distr.
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	%
Burke	4,996	0·48	10,607	1·03	798,477	77·16	72,937	7·05	7,181	0·69	6,433	0·62	16,408	1·59	10,389	1·00	135	0·01	*a* 107,309	10·37	1,034,872	39·87	23·06
Burnett	3	0·23	357	27·02	360	27·25	14	1·06	42	3·18	219	16·58	87	6·59	7	0·53	32	2·42	*b* 200	15·14	1,321	30·04	0·03
Cook	..	..	10	29·41	..	..	2	5·88	..	..	1	2·94	..	..	..	..	..	..	*c* 21	61·77	34	11·26	0·00
Darling Downs	1,317	0·24	19,523	3·59	324,241	59·64	3,448	0·63	16,149	2·97	28,559	5·25	26,879	4·94	32,646	6·01	38,309	7·05	*d* 52,606	9·68	543,677	20·75	12·11
Gregory North	2,424	0·42	9,323	1·63	432,889	75·78	40,091	7·02	3,289	0·57	8,488	1·49	13,520	2·37	7,814	1·37	30	0·01	*e* 53,351	9·34	571,219	34·15	12·73
Gregory South	821	0·69	6,090	5·10	77,800	65·20	3,560	2·98	4,179	3·50	5,338	4·47	11,012	9·23	2,239	1·88	28	0·02	*f* 8,265	6·93	119,332	24·61	2·66
Leichhardt	1,318	0·95	12,304	8·85	66,677	47·97	2,212	1·59	20,174	14·51	6,588	4·74	18,740	13·48	5,150	3·71	1,809	1·30	*g* 4,034	2·90	139,006	12·90	3·10
Maranoa	2,011	0·45	5,960	1·33	303,716	67·83	2,775	0·62	26,937	6·02	31,900	7·12	35,126	7·85	13,191	2·95	7,289	1·63	*h* 18,828	4·20	447,733	11·72	9·97
Mitchell	6,543	0·56	13,554	1·17	972,676	83·97	10,302	0·89	20,021	1·73	22,918	1·98	67,354	5·81	12,247	1·06	221	0·02	*j* 32,587	2·81	1,158,423	20·65	25·81
Moreton	8	0·49	341	20·83	420	25·66	5	0·30	6	0·36	74	4·52	209	12·77	26	1·59	301	18·39	247	15·09	1,637	20·91	0·04
North Kennedy	..	..	222	42·21	137	26·05	30	5·70	..	..	21	3·99	46	8·74	3	0·57	15	2·85	52	9·89	526	9·42	0·01
Port Curtis	112	3·71	212	7·03	828	27·45	4	0·13	304	10·08	206	6·83	393	13·03	100	3·32	585	19·40	272	9·02	3,016	11·87	0·07
South Kennedy	345	0·93	2,749	7·41	22,388	60·31	..	..	2,534	6·83	1,030	2·77	3,762	10·13	898	2·42	50	0·13	*k* 3,367	9·07	37,123	14·43	0·83
Warrego	2,540	0·59	8,419	1·96	325,747	75·99	1,357	0·32	16,421	3·83	25,457	5·94	30,367	7·09	8,719	2·03	380	0·09	*l* 9,238	2·16	428,645	12·65	9·55
Wide Bay	..	..	68	4·72	673	46·67	300	20·80	..	..	15	1·04	32	2·22	..	..	308	21·36	46	3·19	1,442	35·61	0·03
Totals	22,438	0·50	89,739	2·00	3,327,029	74·13	137,037	3·06	117,237	2·61	137,247	3·06	223,935	4·99	93,429	2·08	49,492	1·10	290,423	6·47	4,488,006	20·80	100·

* Losses of unmarked lambs are not taken into consideration.

† Causes included in " Other "

a Winter rain and rain and cold off shears (67,027), marking, poison weed, travelling.

b Travelling.

c Domestic dogs.

d Winter rain and rain and cold off shears (31,347), bloat, dipping, domestic dogs, foxes, poison weed, travelling.

e Winter rain and rain and cold off shears (49,994), marking, poison weed.

f Blight, bogging, poison weed.

g Winter rain and rain and cold off shears (220), bogging, poison weed.

h Winter rain and rain and cold off shears (6,052), blight, bogging, domestic dogs, eagle hawks, foxes, poison weed, travelling.

j Winter rain and rain and cold off shears (21,588), grass seed, marking, poison weed, and travelling.

k Winter rain and rain and cold off shears (2,890), domestic dogs.

l Winter rain and rain and cold off shears (5,584), domestic dogs, marking, poison weed, travelling.

NOTE.—Particulars for 1936 not yet available.

Table No. 54.

RETURN SHOWING NUMBER OF HOLDINGS IN VARIOUS GROUPINGS AND SHEEP THEREON IN THE SEVERAL PASTORAL DISTRICTS AS AT 31ST DECEMBER, 1935.

Pastoral Districts.	1 AND UNDER 50 ACRES.		50 AND UNDER 100 ACRES.		100 AND UNDER 500 ACRES.		500 AND UNDER 1,000 ACRES.		1,000 AND UNDER 5,000 ACRES.		5,000 AND UNDER 10,000 ACRES.		10,000 AND UNDER 20,000 ACRES.		20,000 AND UNDER 50,000 ACRES.		50,000 AND UNDER 100,000 ACRES.		100,000 ACRES AND UPWARDS.		TRAVELLING FLOCKS.		TOTAL.	
	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	Holdings.	Sheep.	No.	Sheep.	Holdings.	Sheep.
Burke..	7	68	2	130	4	425	..	..	7	3,486	15	18,307	90	229,969	180	630,845	51	413,795	23	355,832	..	..	379	1,652,857
Burnett	56	772	11	463	17	2,586	6	2,221	..	..	..	..	..	..	..	..	..	..	..	..	..	..	90	6,042
Cook	10	298	1	63	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	361
Darling Downs ..	160	1,979	56	2,472	251	61,704	236	121,718	741	993,291	172	520,490	74	388,957	31	340,539	4	126,121	..	..	..	..	1,725	2,557,271
Gregory North ..	3	57	..	..	3	195	..	..	4	1,472	..	..	23	36,044	93	289,503	29	175,769	29	533,134	..	..	184	1,036,174
Gregory South ..	..	..	..	..	..	..	..	..	3	339	..	..	14	27,101	14	53,428	12	62,653	14	254,454	..	..	57	397,975
Leichhardt	36	439	22	890	18	2,090	18	5,102	108	109,215	79	206,413	59	230,424	40	266,731	10	252,880	2	66,634	..	..	392	1,140,818
Maranoa	16	352	10	541	25	3,855	32	11,560	249	303,990	186	439,110	207	773,674	164	936,761	45	539,631	26	728,981	..	..	960	3,738,455
Mitchell	9	156	3	147	6	1,174	4	756	34	22,389	40	58,553	188	560,467	311	1,537,792	88	985,749	40	1,005,926	1	5,986	724	4,179,095
Moreton	177	2,600	18	1,188	33	3,352	1	400	2	3,338	1	208	..	..	..	..	..	..	..	..	..	..	232	11,086
North Kennedy ..	27	746	4	257	2	495	3	723	4	1,828	..	..	..	..	..	..	..	..	..	..	..	..	40	4,049
Port Curtis	41	600	17	820	21	3,636	4	663	7	3,062	3	4,850	2	4,900	1	10,200	..	..	..	..	..	..	96	28,731
South Kennedy ..	11	235	5	266	3	656	..	..	7	5,175	5	7,890	15	36,285	14	66,540	7	78,444	2	105,477	..	..	69	295,968
Warrego	3	52	..	..	5	683	2	541	14	10,744	24	47,073	111	298,710	191	882,064	73	567,034	51	1,200,083	..	..	474	3,006,984
Wide Bay	78	1,003	12	463	8	606	..	..	..	..	2	2,155	..	..	..	..	..	..	..	..	..	..	100	4,227
Totals— Holdings ..	634	..	161	..	396	..	306	..	1,180	..	527	..	783	..	1,089	..	319	..	187	..	1	..	5,533	..
Sheep	..	9,357	..	7,700	..	81,457	..	143,684	..	1,458,329	..	1,305,049	..	2,586,531	..	5,014,403	..	3,197,076	..	4,250,521	..	5,986	..	18,060,093
Average Size of Flocks	15		48		206		470		1,236		2,476		3,303		4,826		10,022		22,730		5,986		3,264	

NOTE.—This information was not compiled for the year 1936.

J. B. BRIGDEN,
Government Statistician.

Government Statistician's Office,
Brisbane, 1st December, 1937.

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